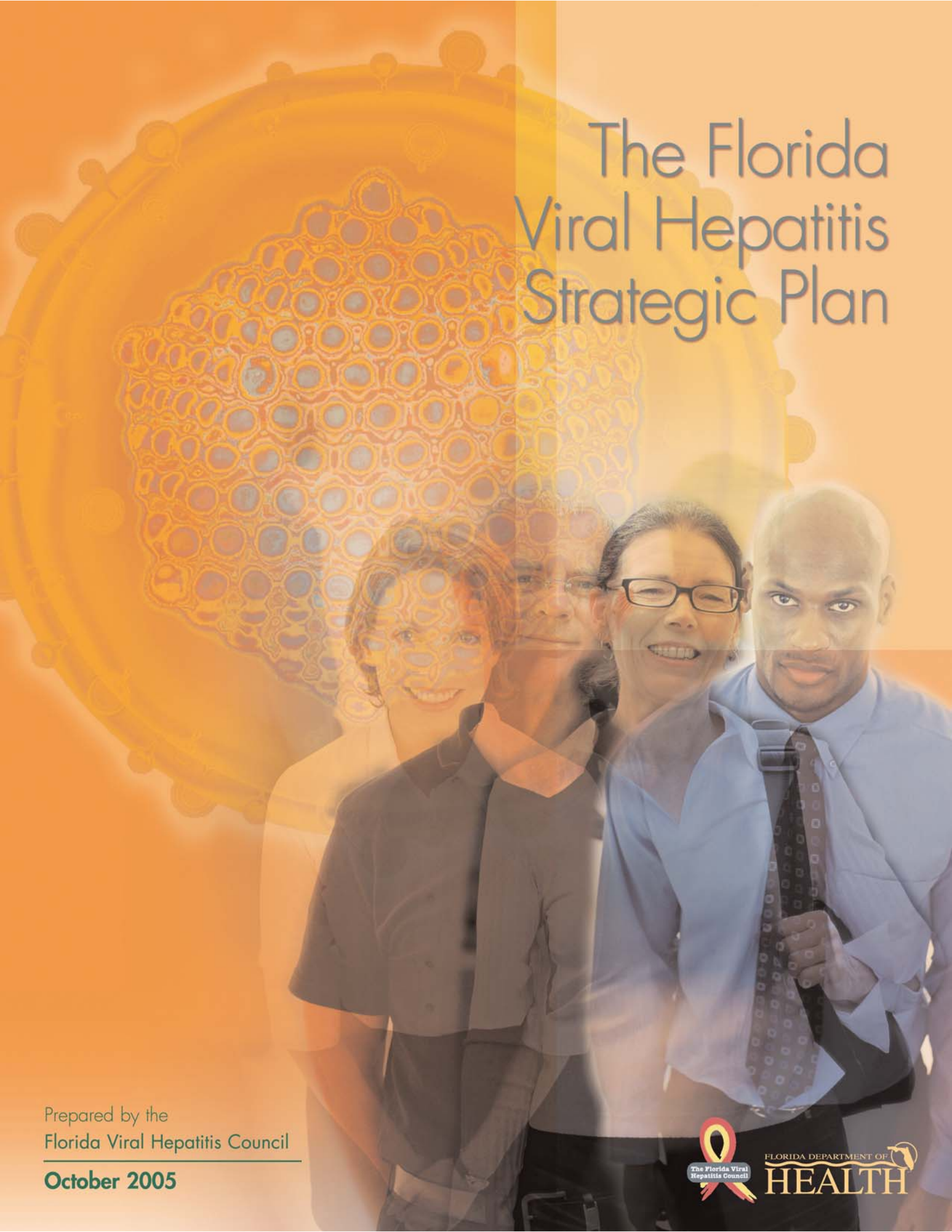
The Florida Viral Hepatitis Strategic Plan



Prepared by the
Florida Viral Hepatitis Council

October 2005

The Florida Viral Hepatitis Council

FLORIDA DEPARTMENT OF HEALTH

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PREFACE

The Florida Viral Hepatitis Strategic Plan has been developed by the Florida Viral Hepatitis Council (FVHC), a statewide work group whose areas of viral hepatitis expertise include public health, epidemiology, HIV/AIDS, immunization, sexually transmitted diseases, occupational health, hepatology, environmental health, gastroenterology, pediatrics, nursing, infection control, clinical laboratory science, clinical services, healthcare finance, healthcare provider education, drug treatment, corrections, and consumer issues. The Florida Viral Hepatitis Strategic Plan is intended to span three years, providing a written document to guide viral hepatitis prevention and control in Florida.

The process used to develop the Florida Viral Hepatitis Strategic Plan began with an action-planning meeting held in April 2003 in Orlando, Florida. At the Viral Hepatitis Action Planning Meeting, the viral hepatitis objectives for the state of Florida were identified and prioritized to provide the basis for a Florida Viral Hepatitis Action Plan, and the Florida Viral Hepatitis Council was established. During this meeting, the Florida Department of Health (DOH) staff presented meeting goals and an overview of information regarding the Hepatitis Program components, budget and funding, epidemiology, programmatic challenges, integration issues, public health recommendations and guidance, capacity of the healthcare system for growing incidence and prevalence, and public awareness. Facilitated groups were formed to discuss the meeting's major planning themes, including: "Corrections, Education/Awareness, Employment/Insurance, Funding/Resources/Services, Integration, Legislative/Legal, Epidemiology/Surveillance, Research, Vaccine, Targeted Populations, Treatment, and Consumer issues."

A "strawman" document was drafted based on the proceedings of the planning meeting. The Florida Viral Hepatitis Council members discussed and edited the draft document during the inaugural meeting of the FVHC held March 31-April 1, 2004, in Tampa, Florida. The draft plan was revised and distributed to the Florida Viral Hepatitis Council for comment twice again prior to the October 2004 Florida Viral Hepatitis Council meeting. The Florida Viral Hepatitis Council provided their final approval of the document in October 2004, and the document was published, after clearance through the department.

Printed copies of the Florida Viral Hepatitis Strategic Plan can be obtained by writing to the Florida Department of Health, Florida Hepatitis Program, 4052 Bald Cypress Way, Bin A-09, Tallahassee, Florida, 32399-1720, or by calling the program office at (850) 245-4334. The Florida Viral Hepatitis Strategic Plan also is available on the department's web site at http://www.doh.state.fl.us/disease_ctrl/aids/hep/VHCouncil.html.

FLORIDA VIRAL HEPATITIS COUNCIL

Purpose
"The FVHC shall provide advice and guidance to the Florida Hepatitis Program on issues related to viral hepatitis."

Membership Of The Florida Viral Hepatitis Council
Active members may include any individual with special interest relative to the field of viral hepatitis. The Florida Viral Hepatitis Council, established in 2004, has 20 individual members, with representation from the community, clinical/medical services, public health, other governmental agencies, association/community-based organizations, and academic/research/university facilities.

Inaugural Members (April 2004)

Michael Amidei
Community Member
Belleair, Florida

Gina Bispham, R.N.
Florida Department of Health
Refugee Health Assessment Program
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EXECUTIVE SUMMARY

The Florida Viral Hepatitis Strategic Plan has been developed by the Florida Viral Hepatitis Council (FVHC), a statewide work group whose areas of viral hepatitis expertise include public health, epidemiology, HIV/AIDS, immunization, sexually transmitted diseases, occupational health, hepatology, environmental health, gastroenterology, pediatrics, nursing, infection control, clinical laboratory science, clinical services, healthcare finance, healthcare provider education, drug treatment, corrections, and consumer issues. The Florida Viral Hepatitis Strategic Plan is intended to span three years, providing a written document to guide viral hepatitis prevention and control in Florida.

The Florida Viral Hepatitis Strategic Plan's guiding principles include prevention, shared responsibility, science, integration, privacy and confidentiality, and program planning, implementation, and evaluation. These principles call for consistent collaboration, continual review, appropriate application of lessons learned, and input from affected populations.

The United States (U.S.) Department of Health and Human Services' ***Healthy People 2010*** (HP2010) contains goals specific to reducing the burden of viral hepatitis in the U.S. Many of the goals in the Florida Viral Hepatitis Strategic Plan are modeled after the HP2010 goals, while other goals have been added to meet the needs of the Florida comprehensive, statewide program. There are six goals in the Florida Viral Hepatitis Strategic Plan: goals one and two address more than one type of viral hepatitis; goal three specifically addresses hepatitis A; goal four specifically addresses hepatitis B; goal five specifically addresses hepatitis C; and goal six addresses policy and programmatic guidance.

There are 32 objectives in the Florida Viral Hepatitis Strategic Plan: nine overarching objectives address more than one type of viral hepatitis; three specifically address hepatitis A; 11 specifically address hepatitis B; six specifically address hepatitis C, and three address policy and programmatic guidance.

FLORIDA VIRAL HEPATITIS AND LIVER FAILURE PREVENTION AND CONTROL PROGRAM

Vision
The vision of the Florida Hepatitis and Liver Failure Prevention and Control Program is to prevent and control viral hepatitis and liver failure in Florida.

Mission
The mission of the Florida Hepatitis and Liver Failure Prevention and Control Program is to decrease the transmission of viral hepatitis and to limit the complications of viral hepatitis-related liver disease by increasing the capacity for a comprehensive, culturally appropriate, statewide system designed to promote and protect the health and safety of Floridians.

Background
It is estimated that over 300,000 Florida residents are infected with hepatitis C virus and most are not aware of their infection. In addition, hepatitis A and hepatitis B continue to cause significant morbidity and mortality for those who are infected. The state legislature recognized the importance of viral hepatitis prevention and control in the 1999 session by appropriating funds toward the development of the Florida Hepatitis and Liver Failure Prevention and Control Program. The legislature has continued to support the Hepatitis Program by appropriating funds in each subsequent fiscal year.

The Florida Hepatitis and Liver Failure Prevention and Control Program **goals** include:

1. Raising statewide awareness of viral hepatitis.
2. Developing and distributing public and professional education.
3. Coordinating intervention, prevention, and disease control programs.
4. Tracking the burden of disease.
5. Conducting research.

The Florida Hepatitis and Liver Failure Prevention and Control Program **objectives** include:

1. Providing leadership, policy development, and technical assistance to support viral hepatitis prevention and control.
2. Supporting the development of a comprehensive prevention plan for viral hepatitis and liver failure.
3. Overseeing counseling and testing services for viral hepatitis.
4. Providing viral hepatitis vaccination for adults at high risk.
5. Promoting treatment and community-based patient care services to persons infected with viral hepatitis.
6. Promoting activities to support prevention initiatives at the local and state levels.

7. Allocating state viral hepatitis resources for prevention, education, vaccination, testing, surveillance, patient care, and other viral hepatitis services.

Primary data sources for evaluating and monitoring this statewide plan include MERLIN and the Health Management Component (HMC). The HMC module of the Health Clinic Management System (HCMS) is designed to allow data entry of Client Service Records (CSR) and Employee Activity Records (EAR) into the locally maintained system. Included in this module is an option to allow for the creation of an HMC service record batch file containing CSR and EAR records that are picked up weekly by a data transport system and appended to the Department of Health Service Record Database. This database is used to produce aggregated data files for state-level reporting. MERLIN is Florida's official web-based system for disease reporting and surveillance. Managed by the department's Bureau of Epidemiology, MERLIN is utilized by all county health departments, various bureaus, and divisions within the department. In addition, several national data sets and reports will be used.

THE FLORIDA VIRAL HEPATITIS STRATEGIC
FLORIDA VIRAL HEPATITIS STRATEGIC PLAN GUIDING PRINCIPLES

This Florida Viral Hepatitis Strategic Plan was written by the Florida Viral Hepatitis Council to guide the viral hepatitis prevention and control efforts in Florida. The guiding principles state that:

- Prevention is the most effective public health strategy.
- Viral hepatitis prevention and treatment is a shared responsibility among public health, private sectors, and the general public.
- Action steps and policies are based on principles and practices that are well established in the biomedical, social, and environmental sciences.
- Services that identify and prevent viral hepatitis and the complications of viral hepatitis are integrated into the existing prevention and care infrastructure.
- Individuals' privacy and confidentiality are assured.
- The knowledge, expertise, and experience of each member of the Florida Viral Hepatitis Council are valued and contribute to the planning, implementation, and evaluation processes.

These guiding principles call for:

- Consistent collaboration between local, state, and federal partners, including private, public, and governmental organizations.
- Continual review and appropriate application of lessons learned from this and other programs.
- Input from affected populations regarding the effectiveness of programs.

SECTION I
FLORIDA VIRAL HEPATITIS STRATEGIC PLAN SUMMARY

Goals
The U.S. Department of Health and Human Services' *Healthy People 2010* (HP2010) contains goals specific to reducing the burden of viral hepatitis in the U.S. Many of the goals in the Florida Viral Hepatitis Strategic Plan are modeled after the HP2010 goals, while other goals have been added to meet the needs of the Florida comprehensive, statewide program. There are six goals in the Florida Viral Hepatitis Strategic Plan: goals one and two address more than one type of viral hepatitis; goal three specifically addresses hepatitis A; goal four specifically addresses hepatitis B; goal five specifically addresses hepatitis C; and goal six addresses policy and programmatic guidance.

The goals for the Florida Viral Hepatitis Strategic Plan are:

1.) Improve viral hepatitis case surveillance and reporting;
2.) Increase viral hepatitis education and awareness;
3.) Reduce hepatitis A morbidity and mortality;
4.) Reduce hepatitis B morbidity and mortality;
5.) Reduce hepatitis C morbidity and mortality; and
6.) Provide policy and programmatic guidance related to viral hepatitis

Objectives
There are 32 objectives in the Florida Viral Hepatitis Strategic Plan: nine overarching objectives address more than one type of viral hepatitis; three specifically address hepatitis A; 11 specifically address hepatitis B, six specifically address hepatitis C, and three address policy and programmatic guidance.

OVERARCHING OBJECTIVES			
Goal	Objective	Title	Methods
1	1a	Increase the percentage of cases identified with viral hepatitis reported to the local county health department, state health office, and Centers for Disease Control and Prevention (CDC) (completeness of case reporting).	Evaluation: Comparison of laboratory-identified cases with reported cases. Additional potential sources of case reports include death certificate and hospital discharge data Baseline: To be determined Target: 80%
1	1b	Increase the completeness of case investigation of reported cases, including all appropriate public health and epidemiologic case finding, and follow-up.	Evaluation: Hepatitis data collection and data analysis; chart reviews Baseline: To be determined Target: Better than best

OVERARCHING OBJECTIVES			
Goal	Objective	Title	Methods
1	1c	Improve the timeliness of case reporting to the local health department, the state health office, and CDC for persons identified with viral hepatitis.	Evaluation: Case (laboratories and providers) reports review at County Health Department (CHD) level Baseline: To be determined Target: Acute reports by phone within 24 hours; chronic reports within five days
1	1d	Improve the completeness of the demographic and epidemiologic information included in case reports submitted by the local health departments to the state health office and CDC.	Evaluation: Hepatitis data collection and data analysis; chart reviews Baseline: To be determined Target: 80% for key variables
1	1e	Develop and make available viral hepatitis epidemiologic reports to healthcare providers, policymakers, and other interested persons.	Evaluation: Hepatitis data collection and analysis Baseline: No surveillance summaries exist to date Target: Surveillance summaries of hepatitis A Virus (HAV), hepatitis B Virus (HBV), and hepatitis C Virus (HCV) developed, published, distributed, and posted to the web
2	2a	Increase hepatitis education and awareness among healthcare practitioners and public health professionals.	Evaluation: Program product and activity review Baseline: To be determined Target: 10% annual increase
2	2b	Increase hepatitis education and awareness in schools.	Evaluation: Program product and activity review Baseline: To be determined Target: 10% annual increase
2	2c	Increase hepatitis education and awareness activities for community members and the general public.	Evaluation: Program product and activity review Baseline: To be determined Target: 10% annual increase
2	2d	Increase hepatitis education and awareness for targeted populations, including those at increased risk for infection and/or serious consequences of infection.	Evaluation: Program product and activity review Baseline: To be determined Target: 10% annual increase

HEPATITIS A OBJECTIVES REDUCING HEPATITIS A MORBIDITY AND MORTALITY			
Goal	Objective	Title	Methods
3	3a	Increase hepatitis A vaccination coverage and series completion among children and adults at increased risk for infection and/or serious consequences of infection.	Evaluation: DOH HMC; chart reviews; clinic audits Baseline: 9% coverage; 20% completion Target: 60% coverage; 40% series completion
3	3b	Provide hepatitis A testing for high-risk adults, in conjunction with hepatitis immunization programs.	Evaluation: DOH HMC; chart reviews; clinic audits Baseline: To be determined Target: 60%
3	3c	Reduce the number of adult and pediatric hepatitis A cases associated with food handlers, contaminated food or water, and/or daycare (environmental).	Evaluation: Case surveillance Baseline: 7.5% of reported HAV infections were associated with food handlers for 1995-1999, five-year average Target: 2% of reported HAV infections associated with persons who identify as food handlers

HEPATITIS B OBJECTIVES REDUCING HEPATITIS B MORBIDITY AND MORTALITY			
Goal	Objective	Title	Methods
4	4a	Increase the proportion of persons with chronic hepatitis B infection reported to the local county health department, the state health office, and CDC.	Evaluation: Comparison of laboratory-identified cases with reported cases. Additional potential sources of case reports include death certificate and hospital discharge data Baseline: To be determined Target: 50%
4	4b	Increase hepatitis B vaccination coverage and series completion among adults at increased risk for infection and/or serious consequences of infection.	Evaluation: DOH HMC; chart reviews, clinic audits Baseline: 9% coverage; 20% completion Target: 60% coverage; 40% series completion
4	4c	Increase hepatitis B vaccination coverage and series completion among children two years of age.	Evaluation: Survey of two-year-olds Baseline: 92% Target: 95%

HEPATITIS B OBJECTIVES REDUCING HEPATITIS B MORBIDITY AND MORTALITY			
Goal	Objective	Title	Methods
4	4d	Provide hepatitis B testing for targeted high-risk adults, in conjunction with adult immunization programs.	Evaluation: DOH HMC; chart reviews; clinic audits Baseline: To be determined Target: 60%
4	4e	Ensure state law requires HBsAg screening of all pregnant women at initial prenatal visit, and all pregnant women are screened for HBsAg.	Evaluation: Florida Administrative Code/Perinatal HBV Screening and Policy Surveys Baseline: 90% Target: 100%
4	4f	Ensure all infants born to HBsAg-positive women receive hepatitis immune globulin (HBIG) and begin the hepatitis B vaccine series within 12 hours after birth, and ensure completion of the remaining two/three doses of the hepatitis B vaccine series by six to eight months for infants of HBsAg-positive women.	Evaluation: Perinatal HBV Screening and Policy Surveys; case management data from MERLIN Baseline: 90% birth doses 80% eight month doses Target: 100% birth doses 90% eight-month doses
4	4g	Reduce chronic HBV infections in infants and young children.	Evaluation: Case surveillance data Baseline: 4.2 cases of perinatal infections in children <2 years of age (1999-2003, five-year average) Target: 0 perinatal infections
4	4h	Increase post-vaccination hepatitis B testing among children born to HBsAg-positive mothers, and ensure all HBsAg-positive pregnant women and infants born to these women receive enhanced case management services.	Evaluation: Case management data from MERLIN; Perinatal Hepatitis B Prevention Program evaluation (survey) Baseline: 80% infants 90% women Target: 90% infants 100% women
	4i	Increase hepatitis B vaccination coverage and series completion among children at school entry and middle school entry.	Evaluation: Bureau of Immunization kindergarten and seventh grade immunization level assessment Baseline: 95% kindergarten (school entry) 75% seventh grade (middle school) Target: 100%

HEPATITIS B OBJECTIVES REDUCING HEPATITIS B MORBIDITY AND MORTALITY			
Goal	Objective	Title	Methods
4	4j	Increase the proportion of HBsAg-positive persons who know their status.	Evaluation: Pre- and post-facility survey Baseline: To be determined Target: 80%
4	4k	Ensure that Perinatal Hepatitis B Prevention Program efforts are focused on program support, early detection, prenatal case identification, policy, health education, information transfer, and evaluation by December 31, 2005, for all 67 county health departments.	Evaluation: Perinatal Hepatitis B Prevention Program Evaluation (survey) Baseline: 60% Target: 100%

HEPATITIS C OBJECTIVES REDUCING HEPATITIS C MORBIDITY AND MORTALITY			
Goal	Objective	Title	Methods
5	5a	Increase the proportion of persons with chronic hepatitis C infection reported to the local county health department, state health office, and CDC.	Evaluation: Comparison of laboratory-identified cases with reported cases. Additional potential sources of case reports include death certificate and hospital discharge data Baseline: To be determined Target: 50%
5	5b	Increase hepatitis C testing among high-risk adults.	Evaluation: DOH HMC; chart reviews; clinic audits Baseline: To be determined Target: 60%
5	5c	Increase the proportion of hepatitis C-positive persons who know their status.	Evaluation: Pre- and post-facility survey Baseline: To be determined Target: 80%
5	5d	Increase the proportion of persons with chronic HCV infection who receive medical and social referrals.	Evaluation: Chart review; Medicaid data review Baseline: To be determined Target: Better than best

HEPATITIS C OBJECTIVES REDUCING HEPATITIS C MORBIDITY AND MORTALITY			
Goal	Objective	Title	Methods
5	5e	Increase the proportion of persons with chronic HCV who receive pretreatment medical evaluation to determine recommended clinical course.	Evaluation: Chart review; Medicaid data review Baseline: To be determined Target: Better than best
5	5f	Increase the proportion of treatment-eligible HCV-positive persons who receive treatment.	Evaluation: Provider survey; chart review; Medicaid data review Baseline: To be determined Target: Better than best

POLICY AND PROGRAMMATIC GUIDANCE OBJECTIVES			
Goal	Objective	Title	Methods
6	6a	Support legislative guidance for hepatitis prevention and control.	Evaluation: Work product Baseline: To be assessed Target: Timely and accurate development and communication of guidance
6	6b	Provide scientific and programmatic guidance for hepatitis prevention and control.	Evaluation: Work product Baseline: To be assessed Target: Timely and accurate development and communication of guidance
6	6c	Facilitate communication and information exchange related to hepatitis prevention and control.	Evaluation: Work product Baseline: To be assessed Target: Timely and accurate development and communication of guidance

SECTION II – THE FLORIDA VIRAL HEPATITIS STRATEGIC PLAN GOALS AND OBJECTIVES

OVERARCHING OBJECTIVES

Viral hepatitis surveillance is needed to direct and evaluate prevention and control activities. A surveillance system for new cases provides the best means to evaluate the effectiveness of prevention efforts and to identify missed opportunities for prevention. Overall, surveillance provides specific information to: monitor trends in incidence of, and risk factors for, disease; assess the burden of disease; identify infected persons requiring counseling and medical follow-up; identify contacts of infected persons requiring counseling and/or post exposure; identify and control outbreaks; and identify missed opportunities for prevention.

In Florida, hepatitis surveillance data is collected passively from physicians, other healthcare providers, and laboratories. Cases are reported to the local county health departments and from there, the case and epidemiologic data are reported to the state health office. Data is collected and transmitted through MERLIN, a web-based surveillance software system. Although the system was available statewide in 2001, it was only in July 2002 that case definitions were made available and counties were encouraged to enter chronic hepatitis cases. Although MERLIN is now able to accept hepatitis data, the extraordinary number of case reports and lab reports makes it impossible for most counties to investigate all of the cases and lab reports and key in the data without supplemental funding.

Achieving high levels of awareness concerning hepatitis prevention and control activities (for example, availability of hepatitis A and B vaccine and hepatitis A, B, and C testing through county health departments) requires education and communication directed at healthcare and public health professionals, persons in groups at risk for infection, and the general public.

Culturally sensitive, multimedia advertising and education in English, Spanish, and other languages are needed to increase public awareness about hepatitis infection, risk factors for infection, the need for counseling and medical management to prevent chronic liver disease, and the differences and similarities between the hepatitis viruses.

Goal 1

Improve Viral Hepatitis Case Surveillance And Reporting

The goals of viral hepatitis surveillance at the national, state, and local levels include:

a) Identifying contacts of case-patients who might require post-exposure prophylaxis.
b) Detecting outbreaks.
c) Determining the effectiveness of viral hepatitis vaccination.
d) Monitoring disease incidence by identifying acute, symptomatic infections in all age groups.
e) Determining the epidemiologic characteristics of both acute and chronic cases, including the source of infection.
f) Determining missed opportunities for vaccination or treatment.

Periodic, regular evaluations of surveillance data for quality, completeness, and timeliness are essential to identify specific aspects of surveillance and case investigation that need improvement.

Under Section 64D-3.002, *Florida Administrative Code* (*F.A.C.*), diagnosed or suspected cases of hepatitis A, B, and C must be reported to the local county health departments (CHDs); however, a comparison of hepatitis reports received from laboratories with reports from healthcare providers suggests that provider reporting of viral hepatitis infections is incomplete.	**Objective 1a**	
	Increase the percentage of cases identified with viral hepatitis reported to the local county health department, state health office, and CDC (completeness of case reporting).	
	TARGET	80%
	EVALUATION METHOD	Case (laboratories and providers) and death certificate surveillance
	BASELINE	To be determined

Objective 1a will be achieved by educating healthcare providers, laboratories, and other reporting sources about reporting roles and responsibilities. In addition, broadening surveillance to include risk factors, co-infection rates, and viral hepatitis-associated transplants and deaths will be beneficial. Electronic laboratory reporting is an important strategy.

Follow-up of acute viral hepatitis cases to provide education, identify source of infection, determine risk of transmission, and implement control measures to prevent spread and reduce complications is the responsibility of the CHDs. The enormous volume of chronic hepatitis reports precludes active follow-up for these cases in most CHDs. The Florida Hepatitis Program monitors the epidemiology of viral hepatitis incidence and prevalence, providing consultation and technical assistance as needed to the CHDs.	**Objective 1b**	
	Increase the completeness of case investigation of reported cases, including all appropriate public health and epidemiologic case-finding and follow-up.	
	TARGET	Better than best
	EVALUATION METHOD	Hepatitis data collection and data analysis; chart reviews
	BASELINE	To be determined

Objective 1b will be achieved by educating healthcare providers, laboratories, other reporting sources, and the CHDs on viral hepatitis reporting roles and responsibilities. While priority will be given to acute disease, as well as perinatal hepatitis B, follow-up for chronic viral hepatitis cases would be beneficial.

<table>
<tr><td colspan="3">GOAL 1 (continued)</td></tr>
<tr><td colspan="3">Improve Viral Hepatitis Case Surveillance and Reporting</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="4">Methods to improve the <u>timeliness</u> of reporting include:

a) Implementing laboratory reporting laws.
b) Ensuring all patients who have signs and symptoms of acute viral hepatitis are appropriately tested and reported.
c) Ensuring all patients with chronic viral hepatitis, or who have risk factors for HBV or HCV infection, are appropriately tested and reported, if positive.

Timeliness of surveillance data can be measured by determining the average length of time in days required for each of the steps in the surveillance system.</td><td colspan="2">Objective 1c
Improve the timeliness of case reporting to the local health department, the state health office, and CDC, for persons identified with viral hepatitis.</td></tr>
<tr><td>TARGET</td><td>Acute reports by phone within 24 hours; chronic reports within five days</td></tr>
<tr><td>EVALUATION METHOD</td><td>Case (laboratories and providers) report review at CHD level</td></tr>
<tr><td>BASELINE</td><td>To be determined</td></tr>
<tr><td colspan="3">Objective 1c will be achieved by educating healthcare providers, laboratories, other reporting sources, and the CHDs about viral hepatitis reporting roles and responsibilities, emphasizing the value of acquiring timely and complete specific viral hepatitis disease-related data. Electronic laboratory reporting will be an important strategy.</td></tr>
<tr><td rowspan="4">Methods to improve the <u>completeness</u> of reporting include:

a) Implementing laboratory reporting laws.
b) Ensuring that all patients who have signs and symptoms of acute viral hepatitis are appropriately tested and reported.
c) Ensuring that all patients with chronic viral hepatitis, or who have risk factors for HBV or HCV infection, are appropriately tested and reported, if positive.

The completeness of surveillance data is assessed by determining the frequency of which data elements are reported with non-missing data.</td><td colspan="2">Objective 1d
Improve the completeness of the demographic and epidemiologic information included in case reports submitted by the local health departments to the state health office and CDC.</td></tr>
<tr><td>TARGET</td><td>80% for key variables</td></tr>
<tr><td>EVALUATION METHOD</td><td>Hepatitis data collection and data analysis; chart reviews</td></tr>
<tr><td>BASELINE</td><td>To be determined</td></tr>
<tr><td colspan="3">Objective 1d will be achieved by educating healthcare providers, laboratories, other reporting sources, and the CHDs about viral hepatitis reporting roles and responsibilities, emphasizing the value of acquiring timely and complete specific viral hepatitis disease-related data.</td></tr>
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<tr><td colspan="3">GOAL 1 (continued)</td></tr>
<tr><td colspan="3">Improve Viral Hepatitis Case Surveillance and Reporting</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="4">Periodic summaries of analyzed surveillance data, accompanied by a concise interpretation, can be useful to a variety of audiences including public health decision-makers, clinical case reporters, and other health professionals. Readily accessible information regarding the epidemiology of viral hepatitis in Florida is needed to increase the awareness of viral hepatitis-related disease and to guide planning and program evaluation activities.</td><td colspan="2">Objective 1e</td></tr>
<tr><td colspan="2">Develop and make available viral hepatitis epidemiologic reports to healthcare providers, policymakers, and other interested persons.</td></tr>
<tr><td>TARGET</td><td>Surveillance summaries of HAV, HBV, and HCV are developed, published, and posted to the web</td></tr>
<tr><td>EVALUATION METHOD</td><td>Hepatitis data collection and analysis</td></tr>
<tr><td></td><td>BASELINE</td><td>No surveillance summaries exist to date</td></tr>
<tr><td colspan="3">Objective 1e will be achieved by collecting and analyzing program-specific data, and by developing and preparing viral hepatitis epidemiologic summary reports in print and electronic format for dissemination to healthcare providers, community organizations, and other interested persons.</td></tr>
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GOAL 2

Increase Hepatitis Education and Awareness

Because of the large number of people with chronic viral hepatitis infection, identification of infected persons must be a major focus of a comprehensive prevention strategy.[1] Identification of persons with HBV and HCV infection provides infected persons the opportunity to obtain information about preventing additional liver damage, avoiding the spread of HCV to others, receiving hepatitis A and B vaccination, and accessing medical evaluation.

To achieve the HP2010 goals for viral hepatitis reduction, adults and children with risk factors for hepatitis infection or the serious consequences of infection must be identified and vaccinated. Many opportunities to vaccinate these individuals are missed. Healthcare providers often do not ask about risk behaviors during healthcare visits, resulting in missed opportunities to vaccinate persons in high-risk groups.[2] Similarly, healthcare providers often do not routinely ask patients about risk factors for HCV infection, suggesting that such persons are being under-diagnosed.[3]

Objective 2a

Increase hepatitis education and awareness for healthcare practitioners and public health professionals.

TARGET	10% annual increase
EVALUATION METHOD	Program product and activity review
BASELINE	To be determined

Objective 2a will be achieved by developing and conducting multifaceted campaigns to educate public and private healthcare providers, educational systems, the general public, and targeted high-risk adults about viral hepatitis detection, prevention, and treatment. The strategies may include direct mailings, a statewide viral hepatitis conference, a corrections prevention services project, posting viral hepatitis epidemiologic and programmatic information on the DOH web site, and publishing articles regarding viral hepatitis in professional journals and newsletters.

Children and young people can gain valuable life-long health and safety habits while in school. For example, rates of some blood-borne infections (for example, HBV and HCV virus) remain elevated among injection drug users, especially early, after initiation into injection drug use. Prevention of transition into injection drug use as an additional step to reduce risk for acquisition and transmission of blood-borne infections merits closer attention.[4]

Objective 2b

Increase hepatitis education and awareness in schools.

TARGET	10% annual increase
EVALUATION METHOD	Program product and activity review
BASELINE	To be determined

Objective 2b will be achieved by developing and conducting multifaceted campaigns to educate public and private healthcare providers, educational systems, the general public, and targeted high-risk adults about viral hepatitis detection, prevention, and treatment. Strategies may include direct mailings, a statewide viral hepatitis conference, a corrections prevention services project, posting viral hepatitis epidemiologic and programmatic information on the DOH web site, and publishing articles regarding viral hepatitis in professional journals and newsletters.

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<tr><td colspan="3">GOAL 2 (continued)</td></tr>
<tr><td colspan="3">Increase Hepatitis Education and Awareness</td></tr>
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<tr><td rowspan="4">Studies have shown that knowledge about transmission and perception of risk and severity of viral hepatitis seems generally poor among many groups. This includes travelers,[5] tattooists, and body piercers,[6] to name a few. In addition, it has been shown that lack of parental awareness about viral hepatitis vaccine was one of the two most significant factors associated with failure to receive vaccine.[7]</td><td colspan="2">Objective 2c</td></tr>
<tr><td colspan="2">Increase hepatitis education and awareness for community members and the general public.</td></tr>
<tr><td>TARGET</td><td>10% annual increase</td></tr>
<tr><td>EVALUATION METHOD</td><td>Program product and activity review</td></tr>
<tr><td colspan="3">BASELINE To be determined</td></tr>
<tr><td colspan="3">Objective 2c will be achieved by developing and conducting multifaceted campaigns to educate public and private healthcare providers, educational systems, the general public, and targeted high-risk adults about viral hepatitis detection, prevention, and treatment. Strategies may include direct mailings, a statewide viral hepatitis conference, a corrections prevention services project, posting viral hepatitis epidemiologic and programmatic information on the DOH web site, and publishing articles regarding viral hepatitis in professional journals and newsletters.</td></tr>
<tr><td rowspan="4">It is well established that several high-risk populations are susceptible to various infections, especially blood-borne viral infectious diseases, such as HIV viral hepatitis.[8] In addition, HBV infection is highly prevalent (44-80%) in injection drug-using (IDU) populations. However, many of these persons have very little knowledge of viral hepatitis, especially of the modes of transmission of hepatitis viruses.[9] Health education and counseling regarding viral hepatitis transmission and prevention should be a part of every counseling opportunity in these populations.</td><td colspan="2">Objective 2d</td></tr>
<tr><td colspan="2">Increase hepatitis education and awareness among targeted populations, including those at increased risk for infection and/or the serious consequences of infection.</td></tr>
<tr><td>TARGET</td><td>10% annual increase</td></tr>
<tr><td>EVALUATION METHOD</td><td>Program product and activity review</td></tr>
<tr><td colspan="3">BASELINE To be determined</td></tr>
<tr><td colspan="3">Objective 2d will be achieved by developing and conducting multifaceted campaigns to educate public and private healthcare providers, educational systems, the general public, and targeted high-risk adults about viral hepatitis detection, prevention, and treatment. Strategies may include direct mailings, a statewide viral hepatitis conference, a corrections prevention services project, posting viral hepatitis epidemiologic and programmatic information on the DOH web site, and publishing articles regarding viral hepatitis in professional journals and newsletters.</td></tr>
</table>

Hepatitis A Objectives

Total Population	New Hepatitis A Cases Rate per 100,000	
	FLORIDA 5-YEAR AVERAGE 1995-1999	U.S. 1997
TOTAL	4.8	11.3
RACE/ETHNICITY		
Black or African American	2.0	6.0
White	4.8	8.1
Hispanic	5.1	24.2
GENDER		
Male	6.7	12.8
Female	2.9	8.1
Florida Population Data Source: DOH Office of Demographic and Economic Research **Florida Hepatitis Case Data Source:** MERLIN, DOH, Bureau of Epidemiology **U.S. Population and Case Data Source:** National Notifiable Diseases Surveillance System (NNDSS), CDC, Epidemiology Program Office (EPO); CDC hepatitis case data are reported electronically from the states via National Electronic Telecommunications System for Surveillance (NETSS)		

Hepatitis A continues to be one of the most frequently reported vaccine-preventable diseases in the U.S., despite the licensure of the hepatitis A vaccine in 1995.[10] The continued occurrence of extensive community-wide outbreaks indicates that hepatitis A remains a major public health problem, causing approximately half the cases of viral hepatitis in the U.S. Widespread vaccination of appropriate, susceptible populations would substantially lower disease incidence and potentially eliminate indigenous transmission of HAV infection. Hepatitis A incidence varies by race/ethnicity, with highest rates among American Indians/Alaskan Natives and lowest rates among Asians; rates among Hispanics are higher than among non-Hispanics. Racial/ethnic differences in rates most likely reflect differences in the risk for infection related to factors such as differences in socioeconomic levels and resultant living conditions (for example, crowding), and more frequent contact with persons from countries where hepatitis A is endemic (for example, Mexico and Central America).

<table>
<tr><td colspan="5">GOAL 3</td></tr>
<tr><td colspan="5">Reduce Hepatitis A Morbidity and Mortality</td></tr>
<tr><td></td><td colspan="2">FLORIDA</td><td colspan="2">U.S.</td></tr>
<tr><td rowspan="4">In Florida, an average of 716 confirmed cases of hepatitis A (incidence 4.4 per 100,000) was reported annually from 1999 through 2003, with the highest rates in children five to nine years old and adults aged 25 to 39. Asymptomatic or unrecognized infections occurring in young children are often a source of infection to others, but the importance of hepatitis A as an emerging sexually transmitted infection cannot be overlooked. Men who have sex with men (MSM) have driven the change in the epidemiology of this disease in Florida.</td><td>TARGET</td><td>1.9 new cases per 100,000 population</td><td>TARGET</td><td>4.5 new cases per 100,000 population</td></tr>
<tr><td>EVALUATION METHOD</td><td>Case surveillance</td><td>EVALUATION METHOD</td><td>Case surveillance</td></tr>
<tr><td>BASELINE</td><td>4.8 new cases per 100,000 population (average) reported in 1995-1999</td><td>BASELINE</td><td>11.3 new cases per 100,000 reported in 1997</td></tr>
<tr><td colspan="2">Florida Population Data Source:
CHARTS, DOH, Office of Demographic and Economic Research
Florida Hepatitis Case Data Source:
MERLIN, DOH, Bureau of Epidemiology</td><td colspan="2">Hepatitis Case and Population Data Source:
NNDSS, CDC, EPO
NOTE: CDC hepatitis case data are reported electronically from the states via NETSS</td></tr>
<tr><td colspan="5">This goal will be achieved by implementing a vaccination strategy that produces high levels of immunity in children, as well as in adults who are at increased risk of infection. Children have the highest rates of hepatitis A and are a primary source for new infections in the community. The Advisory Committee on Immunization Practices (ACIP) has recommended hepatitis A vaccination for children who live in areas where rates of HAV infection are at least twice the national average.[11] Implementation of these recommendations appears to be resulting in dramatic declines in the overall incidence of disease in those areas.[12] The DOH Immunization Program currently provides federally purchased hepatitis A vaccine to CHDs and other healthcare providers for children who meet Vaccines for Children (VFC) criteria. In addition, ACIP recommends vaccination for adults at increased risk of infection or the serious consequences of infection; the adult hepatitis A and hepatitis B vaccines are available through the Florida Hepatitis and Liver Failure Prevention and Control Program.</td></tr>
</table>

<table>
<tr><td colspan="3">GOAL 3 (continued)</td></tr>
<tr><td colspan="3">Reduce Hepatitis A Morbidity and Mortality</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="4">Although hepatitis A vaccine has been recommended for high-risk adults since 1995, studies continue to show low vaccination coverage among several high-risk groups, including MSM, IDU, and patients with sexually transmitted diseases (STDs).[13,14]

There has been increasing appreciation of the role of young children with asymptomatic or unapparent infection as the community reservoir of hepatitis A. Since 1999, the ACIP has recommended HAV vaccination for children who live in areas where rates of HAV infection are at least twice the national average.[11]

Because most children have asymptomatic or unrecognized infections, they play an important role in HAV transmission and serve as a source of infection for others.[15] In one study of adults without an identified source of infection, 52% of their households included a child less than 6 years old, and the presence of a young child was associated with HAV transmission within the household.[16]</td><td colspan="2">Objective 3a
Increase hepatitis A vaccination coverage and series completion among children and adults at increased risk for infection and/or serious consequences of infection.</td></tr>
<tr><td>TARGET</td><td>60% coverage; 40% series completion</td></tr>
<tr><td>EVALUATION METHOD</td><td>DOH HMC; chart reviews, clinic audits</td></tr>
<tr><td>BASELINE</td><td>9% coverage;
20% completion</td></tr>
<tr><td colspan="3">Objective 3a will be achieved by identifying sources of viral hepatitis A vaccine for use in both children and adults, according to the ACIP guidelines. For adults, hepatitis A vaccination activities will include developing adult viral hepatitis immunization policies, procedures, and patient education materials; training private and public sector site staff about integrating viral hepatitis immunization activities into ongoing programs; and supporting the DOH Bureau of Laboratories capacity to provide viral hepatitis testing services. For children, this objective will be achieved by providing VFC hepatitis A vaccine in areas with increased rates of infection (according to the 1999 ACIP recommendations).</td></tr>
</table>

<table>
<tr><td colspan="3">GOAL 3 (continued)</td></tr>
<tr><td colspan="3">Reduce Hepatitis A Morbidity and Mortality</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="4">Antibody production in response to HAV infection results in lifelong immunity to hepatitis A and, presumably, to HAV infection. Vaccination of a person who is immune because of prior infection does not increase the risk of adverse events. In populations with expected high rates of prior HAV infection, pre-vaccination testing may be considered to reduce costs by not vaccinating persons who have prior immunity. Testing of children is not indicated because of their expected low prevalence of infection. For adults, the decision to test should be based on: a) the expected prevalence of immunity; b) the cost of vaccination compared with the cost of serologic testing (including the cost of an additional visit); and c) the likelihood that testing will not interfere with initiating vaccination.</td><td colspan="2">Objective 3b
Provide hepatitis A testing for high-risk adults, in conjunction with hepatitis immunization programs.</td></tr>
<tr><td>TARGET</td><td>60%</td></tr>
<tr><td>EVALUATION METHOD</td><td>DOH HMC; chart reviews, clinic audits</td></tr>
<tr><td>BASELINE</td><td>To be determined</td></tr>
<tr><td colspan="3">Objective 3b will be achieved by making providers aware of testing availability and by giving technical assistance with logistics of the program. Also, funds to purchase testing must be available.</td></tr>
<tr><td rowspan="4">In addition to vaccination, HAV transmission is prevented by such measures as hand hygiene, safe food handling practices, and surface disinfections. Although recognized food-borne HAV outbreaks are infrequent in the U.S., when such outbreaks occur, intensive public health efforts are required for control. Outbreaks associated with food that has been contaminated before reaching the food-service setting have been increasingly recognized in recent years. Persons employed as food handlers were associated with an average of 5.9% of reported HAV cases in Florida for the years 2001-2003.</td><td colspan="2">Objective 3c
Reduce the number of adult and pediatric hepatitis A cases associated with food handlers, contaminated food or water, and/or daycare (environmental).</td></tr>
<tr><td>TARGET</td><td>2% of reported HAV infections associated with persons who identify as food handlers</td></tr>
<tr><td>EVALUATION METHOD</td><td>Case surveillance</td></tr>
<tr><td>BASELINE</td><td>7.5% of reported HAV infections were associated with food handlers during 1995-1999, five-year average</td></tr>
<tr><td colspan="3">Objective 3c will be achieved through educating persons regulating (and working in) daycare centers and food establishments, along with providing follow-up for reported cases of HAV infection, to implement control measures to prevent transmission in these settings.</td></tr>
</table>

Hepatitis B Objectives

Select Age Groups	Hepatitis B Cases							
	Age 0-2		Age 19-24		Age 25-39		Age ≥ 40	
	RATE PER 100,000							
	FL*	U.S. #	FL*	U.S. #	FL*	U.S. #	FL*	U.S. #
TOTAL	0.1	NA	6.7	24.0	7.0	20.2	2.8	15.0
RACE/ETHNICITY								
Black or African American	0.0	NA	14.9	48.3	14.6	32.5	8.1	27.6
White	0.1	NA	3.9	10.4	4.9	10.2	1.8	7.4
Hispanic	NA	NA	NA	16.9	NA	16.0	NA	18.1
GENDER								
Male	0.0	NA	6.2	22.5	9.0	24.1	4.0	20.8
Female	0.1	NA	7.1	24.1	4.9	15.4	1.9	9.4
* 3-year average, 1996-1998		# 1997			NA = not available			
Florida Population Data Source: DOH Office of Demographic and Economic Research **Florida Hepatitis Case Data:** MERLIN, DOH Bureau of Epidemiology **U.S. Population and Hepatitis Case Data Source:** NNDSS, CDC, EPO; CDC hepatitis case data are reported electronically from the states via NETSS								

The incidence of acute hepatitis B has declined steadily during the preceding decade, in part because of successful vaccination and other prevention programs. Since 1982, adolescents and adults at high risk have been recommended to receive HBV vaccine. In 1991, a comprehensive strategy to eliminate HBV transmission – which included universal infant vaccination, universal screening of pregnant women, and post exposure prophylaxis of infants born to infected mothers to prevent perinatal HBV infection – was implemented in the U.S. In 1995, the strategy was expanded to include routine vaccination of all adolescents aged 11-12 years and, in 1997, to include all persons aged 0-18 years who had not been vaccinated previously.[17]

<table>
<tr><td colspan="5">GOAL 4</td></tr>
<tr><td colspan="5">Reduce Hepatitis B Morbidity and Mortality</td></tr>
<tr><td rowspan="4">In Florida, there were a total of 585 acute B cases (incidence 3.43 per 100,000) reported from January 1, 2003, to December 31, 2003. Among all acute cases with risk factor data, the most common risk factor for hepatitis B was being a man who has had sex with men (24%). Other risk factors included having used injection drugs (9%), having body piercing (4%), and having had a blood transfusion (2%). More than three-fourths (83%) of the cases were males, and 54% of the acute hepatitis B cases were White. Nearly half of the cases (41%) were 25 to 39 years old, while 34% of the cases were age 40 or older, and 12% were 15 to 24 years old. Of the 585 total acute HBV cases, 488 (83%) had reported ethnicity data; of these, 15% were Hispanic.</td><td colspan="2">FLORIDA
3-year average, 1996-1998</td><td colspan="2">U.S.
1997</td></tr>
<tr><td>TARGET</td><td>19 to 24 yrs = 0.6
25 to 39 yrs = 1.8
≥ 40 yrs = 0.7</td><td>TARGET</td><td>19 to 24 yrs = 2.4
25 to 39 yrs = 5.1
≥ 40 years = 3.8</td></tr>
<tr><td>EVALUATION METHOD</td><td>Case surveillance</td><td>EVALUATION METHOD</td><td>Case surveillance</td></tr>
<tr><td>BASELINE</td><td>19 to 24 yrs = 6.7
25 to 39 yrs = 7.0
≥ 40 yrs = 2.8</td><td>BASELINE</td><td>19 to 24 yrs = 24.0
25 to 39 yrs = 20.2
≥ 40 yrs = 15.0</td></tr>
<tr><td colspan="2">Florida Population Data Source: CHARTS, DOH, Office of Demographic & Economic Research
Florida Hepatitis Case Data Source: MERLIN, DOH, Bureau of Epidemiology</td><td colspan="2">Hepatitis Case and Population Data Source: NNDSS, CDC, EPO
NOTE: CDC hepatitis case data are reported electronically from the states via NETSS</td></tr>
<tr><td colspan="5">This goal will be met by using both routine childhood vaccination programs and vaccination programs targeted to adolescents and adults in high-risk groups. By identifying settings where these individuals can be vaccinated, high levels of vaccination coverage can be achieved in groups with behavioral risk factors for HBV infection. Routine infant vaccination eventually will produce a highly immune population sufficient to eliminate HBV transmission in the U.S. However, high rates of acute hepatitis B continue to occur, mostly in young adult risk groups.</td></tr>
</table>

<table>
<tr><td colspan="3">GOAL 4 (continued)</td></tr>
<tr><td colspan="3">Reduce Hepatitis B Morbidity and Mortality</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="4">Less than 5% of the HBV infections that occur among children are reported as cases, because children rarely produce signs or symptoms of disease. Chronic HBV infection develops in approximately 90% of children infected at birth and 30-60% of children infected between 1 to 5 years old. Prior to routine immunoprophylaxis of infants and children, cases occurring in children accounted for a disproportionate amount of disease burden due to chronic infection.

Because of the large number of people with chronic HBV infection, identification of infected persons must be a major focus of a comprehensive prevention strategy.[1] Identification of persons with HBV infection provides infected persons the opportunity to obtain information about preventing additional liver damage, avoiding the spread of HBV to others, receiving hepatitis A vaccine, and accessing medical evaluation.</td><td colspan="2">Objective 4a
Increase the proportion of persons with chronic hepatitis B infection who are reported to the local county health department, the state health office, and CDC.</td></tr>
<tr><td>TARGET</td><td>50%</td></tr>
<tr><td>EVALUATION METHOD</td><td>Comparison of laboratory-identified cases with reported cases. Additional potential sources of case reports include death certificate and hospital discharge data</td></tr>
<tr><td>BASELINE</td><td>To be determined</td></tr>
<tr><td colspan="3">Objective 4a will be achieved by educating healthcare providers, laboratories, and other reporting sources about viral hepatitis reporting roles and responsibilities. In addition, broadening the surveillance scope to include risk factors, co-infection rates, and viral hepatitis-associated transplants and deaths will be beneficial. Electronic laboratory reporting will be an important strategy.</td></tr>
<tr><td rowspan="4">The lack of public sector vaccination programs has been a major deterrent to hepatitis B vaccination of high-risk adults other than healthcare workers.[13,18] A recent analysis of patients with acute HBV infection determined that more than half reported treatment for an STD or incarceration in a prison or jail prior to illness. This suggests that more than half of HBV infections might be prevented through routine HBV immunization in public sector sites, specifically STD clinics and correctional health programs.[19]</td><td colspan="2">Objective 4b
Increase hepatitis B vaccination coverage and series completion among adults at increased risk for infection and/or the serious consequences of infection.</td></tr>
<tr><td>TARGET</td><td>60% coverage; 40% series completion</td></tr>
<tr><td>EVALUATION METHOD</td><td>DOH HMC; chart reviews; clinic audits</td></tr>
<tr><td>BASELINE</td><td>9% coverage; 20% series completion</td></tr>
<tr><td colspan="3">Objective 4b will be achieved by identifying sources of adult viral hepatitis vaccine; developing adult viral hepatitis immunization policies, procedures, and patient education materials; training public sector site staff on integrating viral hepatitis immunization activities into ongoing programs; supporting the DOH Bureau of Laboratories' capacity to provide viral hepatitis testing services; and developing procedures to guide uniform integration of viral hepatitis screening, counseling, testing, and referral services.</td></tr>
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<table>
<tr><td colspan="3">GOAL 4 (continued)</td></tr>
<tr><td colspan="3">Reduce Hepatitis B Morbidity and Mortality</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="4">Physicians and other pediatric vaccination providers should adhere to the standards for child and adolescent immunization practices.[17] These standards define appropriate vaccination practices for both the public and private sectors. The standards provide guidance on practices that will eliminate barriers to vaccination. These include practices aimed at eliminating unnecessary prerequisites for receiving vaccinations, eliminating missed opportunities to vaccinate, improving procedures to assess vaccination needs, enhancing knowledge regarding vaccinations among parents and providers, and improving the management and reporting of adverse events. In addition, the standards address the importance of recall and reminder systems, and using assessments to monitor clinic or office vaccination coverage levels among patients.</td><td colspan="2">Objective 4c
Increase hepatitis B vaccination coverage and series completion among children two years old.</td></tr>
<tr><td>TARGET</td><td>95%</td></tr>
<tr><td>EVALUATION METHOD</td><td>Bureau of Immunization survey of two-year-olds</td></tr>
<tr><td>BASELINE</td><td>92%</td></tr>
<tr><td colspan="3">Objective 4c will be achieved through public and provider awareness. In addition, providers will be given assistance in adherence to standards for child vaccination.</td></tr>
<tr><td rowspan="4">Testing is important for persons with risk factors for diseases such as hepatitis B for which a positive test result might affect the recommended diagnostic evaluation, treatment, or follow-up. The continued high incidence of disease among risk groups, such as IDUs and persons engaging in high-risk sexual behaviors, indicates that programs for reaching these populations need to be developed.</td><td colspan="2">Objective 4d
Provide hepatitis B testing for targeted high-risk adults, in conjunction with adult immunization programs.</td></tr>
<tr><td>TARGET</td><td>60%</td></tr>
<tr><td>EVALUATION METHOD</td><td>DOH HMC; chart reviews; clinic audits</td></tr>
<tr><td>BASELINE</td><td>To be determined</td></tr>
<tr><td colspan="3">Objective 4d will be achieved by making providers aware of testing availability and by giving technical assistance with logistics of the program. Also, funds to purchase testing must be available.</td></tr>
</table>

<table>
<tr><td colspan="3">GOAL 4 (continued)</td></tr>
<tr><td colspan="3">Reduce Hepatitis B Morbidity and Mortality</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="4">Each year, despite the successful vaccination and prevention programs, 16,000 to 18,000 children in the U.S. are born to mothers infected with HBV.[20] Ninety-five percent of these infections are preventable through appropriate maternal screening and infant care.[21]

Sections 381.0031 and 384.25, Florida Statutes (F.S.), require reporting of positive HBsAg tests; and section 64D-3.013, Florida Administrative Code (F.A.C.), provides procedures for screening, reporting, and follow-up of HBsAg-positive pregnant women, their infants, and household contacts.

In Florida, the hepatitis B perinatal five-year average (1999-2003) incidence per 100,000 population is 0.7.</td><td colspan="2">Objective 4e
Ensure state law requires HBsAg screening of all pregnant women at initial prenatal visit, and ensure all pregnant women are screened for HBsAg.</td></tr>
<tr><td>TARGET</td><td>100%</td></tr>
<tr><td>EVALUATION METHOD</td><td>Florida Administrative Code and perinatal HBV screening and policy surveys</td></tr>
<tr><td>BASELINE</td><td>90%</td></tr>
<tr><td colspan="3">Objective 4e will be achieved by providing timely follow-up to all pregnant women. Also, parents and providers (OB/GYN, pediatricians, midwives) will be educated about hepatitis B perinatal programs and requirements.</td></tr>
<tr><td rowspan="4">Sections 381.0031 and 384.25, F.S., require reporting of positive HBsAg tests; and section 64D-3.013, F.A.C., provides procedures for screening, reporting and follow-up of HBsAg-positive pregnant women, their infants, and household contacts. In addition, section 64D-3.019, F.A.C., (Blood Testing of Pregnant Women) was amended to ensure that pregnant women are tested for HBsAg at initial provider visit and at 28-32 weeks of pregnancy. A blood sample will also be taken from women who appear for delivery without a record of a test for HBsAg.</td><td colspan="2">Objective 4f
Ensure that all infants born to HBsAg-positive women receive hepatitis immune globulin (HBIG) and begin the hepatitis B vaccine series within 12 hours after birth and ensure completion of the remaining two/three doses of the hepatitis B vaccine series by six to eight months for infants of HBsAg-positive women.</td></tr>
<tr><td>TARGET</td><td>100% birth doses
90% eight-month doses</td></tr>
<tr><td>EVALUATION METHOD</td><td>Perinatal HBV screening and policy surveys; case management data from MERLIN</td></tr>
<tr><td>BASELINE</td><td>90% birth doses
80% eight-month doses</td></tr>
<tr><td colspan="3">Objective 4f will be achieved by supplying federally purchased hepatitis B vaccine to CHDs and other healthcare providers through the VFC Program, as well as educating parents and providers about the perinatal hepatitis B vaccine and testing requirements.</td></tr>
</table>

<table>
<tr><td colspan="3">GOAL 4 (continued)</td></tr>
<tr><td colspan="3">Reduce Hepatitis B Morbidity and Mortality</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="4">Steps to prevent HBV transmission to infants born to mothers who are infected must begin as soon as the child is born. Such infants should receive a first dose of hepatitis B vaccine within 12 hours of birth, along with HBIG, and must receive two more doses of vaccine by age six months. In addition, children of HBsAg-positive mothers must be tested between the ages of 12 and 15 months to ensure that they are not infected and have developed immunity to the virus. In Florida, for the 1999-2003 five-year average, there were 3.6 perinatal cases reported.</td><td colspan="2">Objective 4g</td></tr>
<tr><td colspan="2">Reduce chronic HBV infections in infants and young children.</td></tr>
<tr><td>TARGET</td><td>0 perinatal infections</td></tr>
<tr><td>EVALUATION METHOD</td><td>Case surveillance data</td></tr>
<tr><td>BASELINE</td><td>4.2 cases of preinatal infections in children <2 years of age (1999-2003, five-year average)</td></tr>
<tr><td colspan="3">Objective 4g will be achieved by supplying federally purchased pediatric hepatitis B vaccine to CHDs and other healthcare providers through the VFC Program. Education for parents and providers about the perinatal hepatitis B vaccine and testing requirements is also an important strategy.</td></tr>
<tr><td rowspan="4">Children of HBsAg-positive mothers need to be tested between the ages of 12 and 15 months to ensure that they are not infected and have developed immunity to the virus. In Florida, for the 1999-2003 five-year average, there were 3.6 perinatal cases reported.</td><td colspan="2">Objective 4h</td></tr>
<tr><td colspan="2">Increase post-vaccination hepatitis B testing among children born to HBsAg-positive mothers and ensure that all HBsAg-positive pregnant women and infants born to these women receive enhanced case management services.</td></tr>
<tr><td>TARGET</td><td>90% infants
100% women</td></tr>
<tr><td>EVALUATION METHOD</td><td>Case management data from MERLIN; perinatal hepatitis B prevention program evaluation (survey)</td></tr>
<tr><td>BASELINE</td><td>80% infants
90% women</td></tr>
<tr><td colspan="3">Objective 4h will be achieved by providing timely follow-up to all infants born to HBgAg-positive (or unknown) mothers. Also, parents and providers (OB/GYN, pediatricians) will be educated about hepatitis B perinatal programs and requirements.</td></tr>
</table>

<table>
<tr><td colspan="3">GOAL 4 (continued)</td></tr>
<tr><td colspan="3">Reduce Hepatitis B Morbidity and Mortality</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="4">In 1997, Florida added hepatitis B vaccine to the list of vaccines required by section 64D-3.011, F.A.C., for children entering the seventh grade. In 1998, a requirement was added for children entering kindergarten, in daycare centers, and in schools. HBV infection will be reduced greatly as the individuals covered by universal infant and adolescent vaccination efforts enter young adulthood, a period when the risk of HBV infection increases.[1]</td><td colspan="2">Objective 4i</td></tr>
<tr><td colspan="2">Increase hepatitis B vaccination coverage and series completion among children at school entry and at middle school entry.</td></tr>
<tr><td>TARGET</td><td>100%</td></tr>
<tr><td>EVALUATION METHOD</td><td>Bureau of Immunization kindergarten and seventh grade immunization level assessment</td></tr>
<tr><td colspan="3">Objective 4i will be achieved through public and provider awareness. In addition, providers will be given assistance in adherence to standards for child and adolescent vaccination.</td></tr>
<tr><td rowspan="4">Because of the large number of people with chronic HBV infection, identification of infected persons must be a major focus of a comprehensive prevention strategy. Identification of persons with HBV infection provides infected persons the opportunity to obtain information about preventing additional liver damage, avoiding the spread of HBV to others, receiving hepatitis A vaccine, and accessing medical evaluation.</td><td colspan="2">Objective 4j</td></tr>
<tr><td colspan="2">Increase the proportion of HBsAg positive persons who know their status.</td></tr>
<tr><td>TARGET</td><td>80%</td></tr>
<tr><td>EVALUATION METHOD</td><td>Chart reviews; clinic audits</td></tr>
<tr><td colspan="3">Objective 4j will be achieved by developing and distributing HBV prevention education materials to the general public, youth in high-risk settings, and IDUs; funding a statewide hepatitis C information line; integrating HBV prevention information into appropriate affiliated services and publications; and educating state policymakers with science-based information. Records of persons with HBV infection who have been followed-up by CHDs will be reviewed to determine compliance with recommended prevention and case management guidelines. Chart reviews of clients seen at public and private facilities will indicate the level of compliance with recommended risk assessment, testing, referral, and treatment guidelines.</td></tr>
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<table>
<tr><td colspan="3">GOAL 4 (continued)</td></tr>
<tr><td colspan="3">Reduce Hepatitis B Morbidity and Mortality</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="4">Steps to prevent HBV transmission to infants born to mothers who are infected must begin as soon as the child is born. Such infants should receive a first dose of hepatitis B vaccine within 12 hours of birth, along with HBIG and two more doses of vaccine by age six months. In addition, children of HBsAg-positive mothers need to be tested between the ages of 12 and 15 months to ensure that they are not infected and have developed immunity to the virus. In Florida, for the 1999-2003 five-year average, there were 3.6 perinatal cases reported.</td><td colspan="2">Objective 4k
Ensure perinatal hepatitis B prevention program efforts are focused on program support, early detection, prenatal case identification, policy, health education, information transfer, and evaluation by December 31, 2005, for all 67 county health departments</td></tr>
<tr><td>TARGET</td><td>100%</td></tr>
<tr><td>EVALUATION METHOD</td><td>Perinatal hepatitis B prevention program evaluation (survey)</td></tr>
<tr><td>BASELINE</td><td>60%</td></tr>
<tr><td colspan="3">Objective 4k will be achieved by educating county health departments and other providers about the hepatitis B vaccine, testing requirements, and resources available. Support, early detection, prenatal case identification, policy, health education, and information transfer will be provided by Bureau of Immunization and other partners.</td></tr>
</table>

Hepatitis C Objectives

Total Population	New Hepatitis C Cases Rate per 100,000	
	FLORIDA 3-Year Average 1995-1997	U.S. 1996
TOTAL	0.7	2.4
RACE/ETHNICITY		
Black or African American	0.9	DSU
White	0.7	3.0
Hispanic	DSU	DSU
GENDER		
Male	1.0	2.0
Female	0.7	2.8
Florida Population Data Source: CHARTS, DOH, Office of Demographic and Economic Research **Florida Hepatitis Case Data Source:** MERLIN, DOH, Bureau of Epidemiology **U.S. Hepatitis Case and Population Data Source:** NNDSS, CDC, EPO **NOTE:** CDC hepatitis case data are reported electronically from the states via NETSS		
DSU = Data are statistically unreliable		

Hepatitis C virus (HCV) is the most common chronic blood-borne viral infection in the U.S. HCV is primarily transmitted by percutaneous exposure to blood. Injecting-drug use currently accounts for 60% of HCV transmission in the U.S., and infection is acquired rapidly after initiation of injecting.[22] Unlike hepatitis A and hepatitis B infection, HCV infection is not vaccine-preventable. Measures that prevent HCV transmission include donor screening, viral inactivation of products derived from human plasma, health education, and risk reduction measures.

<table>
<tr><td colspan="5">GOAL 5</td></tr>
<tr><td colspan="5">Reduce Hepatitis C Morbidity and Mortality</td></tr>
<tr><td></td><td colspan="2">FLORIDA</td><td colspan="2">U.S.</td></tr>
<tr><td rowspan="4">There were 63 reported acute hepatitis C cases in Florida from January 1, 2003, to December 1, 2003. The most common risk factor for acute hepatitis C was using injection drugs (40%). Other risk factors included “having ever been incarcerated” (37%), “having had a tattoo” (22%), and body piercing (10%). Forty-three percent (43%) of the cases were males, and 79% were White. White males accounted for 33% of the reported acute hepatitis C cases, while 6% of cases were Black males, 46% were White females, and 8% were Black females. Just over half of the cases (57%) were 40 years old or older and 32% were 25 to 39 years old.

There were 21,040 reported chronic hepatitis C cases in Florida from January 1, 2003, to December 1, 2003. Over half (61%) of the cases were males, and 79% of cases with race designated were White. Persons 40 years old and older accounted for 83% of cases. Risk factor information was available for approximately 7% of cases. Of these, “ever using injection drugs” (51%), “ever being incarcerated” (46%), and “having had a blood transfusion before 1992” (24%) were the most common risk factors.</td><td>TARGET</td><td>0.2 new cases per 100,000 population</td><td>TARGET</td><td>1.0 new cases per 100,000 population</td></tr>
<tr><td>EVALUATION METHOD</td><td>Case surveillance</td><td>EVALUATION METHOD</td><td>Case surveillance</td></tr>
<tr><td>BASELINE:</td><td>0.4 new cases per 100,000 were reported for 1999-2003, five-year average</td><td>BASELINE</td><td>2.4 new cases per 100,000 were reported in 1996</td></tr>
<tr><td colspan="2">Florida Population Data Source:
CHARTS, DOH, Office of Demographic and Economic Research

Florida Hepatitis Case Data Source:
MERLIN, DOH, Bureau of Epidemiology</td><td colspan="2">U.S. Hepatitis Case and Population Data Source:
NNDSS, CDC, EPO

NOTE: CDC hepatitis case data are reported electronically from the states via NETSS</td></tr>
<tr><td colspan="5">This goal will be met using prevention and control programs targeted to adolescents and adults in high-risk groups. When possible, hepatitis C prevention and control programs should be integrated into care and service infrastructure already in place in the private and public sectors.</td></tr>
</table>

<table>
<tr><td colspan="3">GOAL 5 (continued)</td></tr>
<tr><td colspan="3">Reduce Hepatitis C Morbidity and Mortality</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="4">Due to the large number of people with chronic HCV infection, identification of infected persons must be a major focus of a comprehensive prevention and control strategy.[1] Identification of persons with HCV infection provides infected persons the opportunity to obtain information about preventing additional liver damage, avoiding the spread of HCV to others, receiving hepatitis A and B vaccines, and accessing medical evaluation.</td><td colspan="2">Objective 5a
Increase the proportion of persons with chronic hepatitis C infection reported to the local county health department, the state health office, and CDC.</td></tr>
<tr><td>TARGET</td><td>50% (154,214 cases)</td></tr>
<tr><td>EVALUATION METHOD</td><td>Comparison of laboratory-identified cases. Additional potential sources of case reports include death certificate and hospital discharge data</td></tr>
<tr><td>BASELINE</td><td>11.3% (34,752 cases)*</td></tr>
<tr><td colspan="3">*NOTE: The baseline assumes that the prevalence of HCV infection in Florida (1.8% of the 17,134,944 Florida population or 308,429 persons) is similar to the prevalence of HCV infection in the U.S.</td></tr>
<tr><td colspan="3">Objective 5a will be achieved by supporting the DOH Bureau of Laboratories' capacity to provide HCV testing services to public sector sites, developing procedures to guide uniform integration of HCV screening, counseling, testing and referral services, and training and technical assistance to public sector sites to support integration of HCV testing activities. Also, healthcare providers, laboratories, and other reporting sources will be educated about viral hepatitis reporting roles and responsibilities. The surveillance scope may be broadened to include risk factors, co-infection rates, and viral hepatitis-associated transplants and deaths.</td></tr>
<tr><td rowspan="4">Many adults with past or current HCV exposure risk are uninformed or misinformed about the virus. Identification of infection is a major component of a comprehensive prevention program. Due to the large number of people with chronic HCV infection, identification of infected persons must be a major focus of a comprehensive prevention strategy.[1] Identification of persons with HCV infection provides infected persons the opportunity to obtain information about preventing additional liver damage, avoiding the spread of HCV to others, receiving hepatitis A and B vaccines, and accessing medical evaluation. Patients with HCV should be encouraged to make full use of these services.[23] Unlike HAV and HBV, laboratory capacity to identify HCV antibodies and RNA is relatively recent.</td><td colspan="2">Objective 5b
Increase hepatitis C testing among high-risk adults.</td></tr>
<tr><td>TARGET</td><td>60%</td></tr>
<tr><td>EVALUATION METHOD</td><td>DOH HMC; chart reviews; clinic audits</td></tr>
<tr><td>BASELINE</td><td>To be determined</td></tr>
<tr><td colspan="3">Objective 5b will be achieved by making providers aware of testing availability and by giving technical assistance with logistics. Also, funds to purchase testing must be available.</td></tr>
</table>

<table>
<tr><td colspan="3">GOAL 5 (continued)</td></tr>
<tr><td colspan="3">Reduce Hepatitis C Morbidity and Mortality</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="4">Hepatitis C testing is rarely initiated in primary care clinics based on physician-identified risk factors. Interventions should be developed to optimize early diagnosis of hepatitis C, since significant liver disease may be present despite the absence of symptoms.[24] Identification of persons with HCV infection provides the opportunity to give information about preventing additional liver damage, avoiding the spread of HCV to others, receiving hepatitis A and B vaccines, and accessing medical evaluation.</td><td colspan="2">Objective 5c
Increase the proportion of hepatitis C-positive persons who know their status.</td></tr>
<tr><td>TARGET</td><td>80%</td></tr>
<tr><td>EVALUATION METHOD</td><td>Chart reviews; clinic audits</td></tr>
<tr><td>BASELINE</td><td>To be determined</td></tr>
<tr><td colspan="3">Objective 5c will be achieved by developing and distributing HCV prevention education materials to the general public, to youth in high-risk settings, and to IDUs; funding a statewide hepatitis C information line; integrating HCV prevention information into appropriate, affiliated services and publications; and educating state policymakers with science-based information. Records of persons with HCV infection who have been followed-up by CHDs will be reviewed to determine compliance with recommended prevention and case management guidelines. Chart reviews of clients seen at private and public facilities will indicate level of compliance with recommended risk assessment, testing, referral, and treatment guidelines.</td></tr>
<tr><td rowspan="4">Persons with HCV infection should be medically evaluated to assess biochemical evidence of chronic liver disease, severity of disease, and possible need for treatment. The percentage of persons with HCV infection who have access to medical health care in Florida is not known. HCV treatment of choice has changed three times in the past five years. A national survey of primary care physicians has identified deficits in knowledge regarding treatment and patient referral criteria, and in screening practices for patients with risk factors.[25]</td><td colspan="2">Objective 5d
Increase the proportion of persons with chronic HCV infection who receive medical and social referrals.</td></tr>
<tr><td>TARGET</td><td>Better than best</td></tr>
<tr><td>EVALUATION METHOD</td><td>Chart review; Medicaid data review</td></tr>
<tr><td>BASELINE</td><td>To be determined</td></tr>
<tr><td colspan="3">Objective 5d may be achieved by surveying a sample of persons with HCV infection to determine access and barriers to medical care; collaborating with the Agency for Health Care Administration (AHCA) to assure that Medicaid covers medical management of HCV infection as a standard of care; exploring the feasibility of developing an insurance mandate covering the treatment of HCV; identifying funding sources for a health insurance, premium subsidy program for low income un- and under-insured persons with HCV infection, and creating such a program when funds become available.</td></tr>
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<table>
<tr><td colspan="3">GOAL 5 (continued)</td></tr>
<tr><td colspan="3">Reduce Hepatitis C Morbidity and Mortality</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="4">Recent evaluations of HCV/HIV co-infected persons and veterans determined that only 30% were eligible for treatment.[26,27] Persons with HCV infection should be medically evaluated to assess biochemical evidence of chronic liver disease, severity of disease, and possible need for treatment. The percentage of persons with HCV infection who have access to medical health care in Florida is not known.</td><td colspan="2">Objective 5e</td></tr>
<tr><td colspan="2">Increase the proportion of persons with chronic HCV who receive pretreatment medical evaluation to determine recommended clinical course.</td></tr>
<tr><td>TARGET</td><td>Better than best</td></tr>
<tr><td>EVALUATION METHOD</td><td>Chart review; Medicaid data review</td></tr>
<tr><td></td><td>BASELINE</td><td>To be determined</td></tr>
<tr><td colspan="3">Objective 5e may be achieved by surveying a sample of persons with HCV infection to determine pretreatment evaluations and subsequent referrals; developing and distributing a resource list of physicians who provide pretreatment evaluation; collaborating with the Agency for Health Care Administration to assure that Medicaid covers the cost of pretreatment evaluation as a standard of care; exploring the feasibility of developing a mandate that would cover the cost of pretreatment evaluation of HCV; identifying funding resources for program to provide access to HCV pretreatment evaluation for low income un- or under-insured persons with HCV infection, and creating such a program when funds become available.</td></tr>
</table>

<table>
<tr><td colspan="3">GOAL 5 (continued)</td></tr>
<tr><td colspan="3">Reduce Hepatitis C Morbidity and Mortality</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="4">Treatment is recommended for persons with chronic HCV who are at greatest risk for progression to cirrhosis. The current treatment of choice, pegylated interferon and ribavirin, results in a sustained virologic response for more than 40% of patients with genotype 1 (70% of HCV infections in the U.S. are genotype 1) and 80% of patients with genotype 2 or 3.[28] The manufacturers of pegylated interferon and ribavirin currently supply free drugs to persons who are uninsured and low income. However, drug assistance programs do not supply drugs to uninsured persons with modest incomes or to insured persons with high deductibles. Also, HCV-positive individuals must first obtain a prescription, which requires costly pretreatment evaluation. In addition, active psychiatric illness, active drug, or alcohol use, decompensated liver disease, and certain medical conditions are barriers to treatment. According to one simulation model, antiviral therapy reduces disease burden from HCV infection by 5%.[29] It is possible that continued improvements in antiviral therapy against HCV infection might ultimately decrease the number of patients needing liver transplantation.[30]</td><td colspan="2">Objective 5f</td></tr>
<tr><td colspan="2">Increase the proportion of treatment-eligible HCV-positive persons who receive treatment.</td></tr>
<tr><td>TARGET</td><td>Better than best</td></tr>
<tr><td>EVALUATION METHOD</td><td>Provider survey; Medicaid data review; chart review</td></tr>
<tr><td>BASELINE</td><td>To be determined</td></tr>
<tr><td colspan="3">Objective 5f may be achieved by surveying a sample of persons with HCV infection to determine access and barriers to medical care; collaborating with the AHCA to assure that Medicaid covers medical management of HCV infection as a standard of care; exploring the feasibility of developing an insurance mandate that that would cover the treatment of HCV; identifying funding sources for a health insurance premium subsidy program for low income un- and under-insured persons with HCV infection, and creating such a program when funds become available.</td></tr>
</table>

GOAL 6		
Policy and Programmatic Guidance		
The Legislature charged the Florida Department of Health to conduct a communicable disease prevention and control program as part of fulfilling its public health mission. Specific listings of viral hepatitis prevention and control needs to be added to section 381.003, *F.S.*	**Objective 6a**	
	Support legislative guidance for hepatitis prevention and control.	
	TARGET	Timely and accurate development and communication of guidance
	EVALUATION METHOD	Work product
	BASELINE	To be determined
Many agencies, such as substance abuse shelters, correctional facilities, private physicians, healthcare providers, and community-based organizations are interested in combating viral hepatitis in Florida. As public awareness increases, so does the need for current, accurate, and science-based expertise to provide education and training for those who seek to intervene and prevent transmission of the disease.	**Objective 6b**	
	Provide scientific and programmatic guidance for hepatitis prevention and control.	
	TARGET	Timely and accurate development and communication of guidance
	EVALUATION METHOD	Work product
	BASELINE	To be determined
A major focus of a viral hepatitis prevention and control program should be leadership in assisting medical, public health, and other agencies in implementing activities that will increase awareness and prevent transmission of disease. Such activities could include the development of train-the-trainer classes, on-site workshops, and teleconferences for HIV/AIDS and STD counselors, local agencies, Veterans' Administration (VA), Florida Medical Association (FMA), and support groups.	**Objective 6c**	
	Facilitate communication and information exchange related to hepatitis prevention and control.	
	TARGET	Timely and accurate development and communication of guidance
	EVALUATION METHOD	Work product
	BASELINE	To be determined
Objectives 6a-6c will be achieved through the DOH Hepatitis Program activities with private and public partners designed to provide hepatitis-specific legislative, educational, activity building, and communications leadership and guidance for the state and for local communities.		

Timeline

This Florida Viral Hepatitis Strategic Plan is intended to span three years, with revisions and updates after that period. Progress toward meeting the objectives will be evaluated annually. The Florida Viral Hepatitis Strategic Plan will be updated to reflect achievement of objectives, medical advances, and changes in policy and resource availability.

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Appendix 1

Overview of the Florida Hepatitis and Liver Failure Prevention and Control Program

INTRODUCTION

Viral hepatitis is an important public health problem, causing significant morbidity and mortality in Florida. Based on national estimates, more than 300,000 Floridians are infected with hepatitis C, yet the disease is called the "silent epidemic" because so few of those infected know that they are infected. Further, the incidence rate of hepatitis B in Florida has remained at approximately 4.5 per 100,000 people since 1995, and outbreaks and increased rates of hepatitis A continue to be seen among several groups in Florida.

The state legislature recognized the importance of hepatitis prevention and control in the 1999 session by appropriating $2.5 million towards the development of a comprehensive viral hepatitis and liver failure prevention and control program. The legislature has continued their support of the comprehensive program by appropriating $3.5 million in each fiscal year since then. The Florida Hepatitis Program receives an additional $100,000 each year from the Centers for Disease Control and Prevention (CDC) for a hepatitis C coordinator.

Florida's comprehensive statewide viral hepatitis prevention and control initiatives include: raising statewide awareness of viral hepatitis; developing and distributing public and professional education; coordinating community-based direct intervention programs; tracking the burden of disease; and conducting research. This program has established an enhanced surveillance program and viral hepatitis registry, as well as a statewide education and awareness campaign for the public as well as healthcare professionals. The program also funds a statewide hepatitis C hotline, and several county-based viral hepatitis prevention and control projects. In addition, hepatitis A and B vaccines are available at no cost to each of the 67 counties in Florida. All counties, except those receiving funding for viral hepatitis testing (Miami-Dade, Monroe, Collier, Polk, Pinellas, Broward), may also provide hepatitis B and C testing through the State Public Health Laboratory at no cost to the county.

Since July 2, 2001, the Hepatitis Program has been located within the Bureau of HIV/AIDS, Division of Disease Control, Florida Department of Health. This structure increases the program's ability to integrate viral hepatitis into HIV/AIDS programs and services, such as outreach, counseling and testing. In addition, the Hepatitis Program has active integration projects with other public health partners including Immunization (vaccine and outbreak activities), Epidemiology, Sexually Transmitted Diseases (STD), Jails, Department of Corrections, Refugee Health, and others.

Comprehensive viral hepatitis and liver failure prevention and control programs are needed in state and local health departments. The Florida program demonstrates an integrated approach to developing this important public health program.

PROGRAM OBJECTIVES

The Florida Hepatitis and Liver Failure Prevention and Control Program objectives include:

1. Providing leadership, policy development, and technical assistance that support viral hepatitis prevention and control.
2. Supporting the development of a comprehensive prevention plan for viral hepatitis and liver failure.
3. Overseeing counseling and testing services for viral hepatitis.
4. Providing viral hepatitis vaccination for adults at high risk.
5. Promoting treatment and community-based patient care services to persons infected with viral hepatitis.
6. Promoting activities to support prevention initiatives at the local and state levels.
7. Allocating state viral hepatitis resources for prevention, education, vaccination, testing, surveillance, patient care, and other viral hepatitis services.

PROGRAM ACTIVITIES

Activity summary (as of February 2004):

- **County health department funding** for the provision of viral hepatitis services.
  - Six counties (Broward, Collier, Miami-Dade, Monroe, Pinellas, and Polk) (since July 1, 1999).
  - Three additional counties (Escambia, Lee, and Seminole); nurse and clerical positions only (since October 2002).
- **Hepatitis A and hepatitis B vaccines** for adults at increased risk for infection or serious consequences of infection (since January 2001).
  - From Jan. 2001 – Dec. 2003, over 28,000 Florida adult residents were vaccinated for hepatitis A.
  - From Jan. 2001 – Dec. 2003, over 36,000 Florida adult residents were vaccinated for hepatitis B.
  - From Jan. 2001 – Dec. 2003, there was a 19 percent series completion rate for hepatitis A vaccine, and a 28 percent series completion rate for hepatitis B vaccine.
  - For hepatitis B vaccine, 52 percent of those receiving the first dose also received the second dose, and 54 percent of those receiving the second dose also received the third.
- **Chronic hepatitis B and hepatitis C testing** through the county health departments and community-based organizations, for adults at increased risk for infection or serious consequences of infection (since January 2001).
  - From January 2001 – December 2003, over 53,000 Florida residents were tested for hepatitis B and C.
  - Of those tested, approximately 12 percent had been infected with hepatitis C and 13 percent had been infected with hepatitis B.
  - Addition of hepatitis A testing to the chronic hepatitis B and hepatitis C tests for adults at increased risk for infection or serious consequences of infection (February 2004).
- **Public education and awareness**
  - Radio (hepatitis B and C) statewide 05/021/01 – 07/31/01.
  - Radio (hepatitis C) in Orlando and Jacksonville 01/06/03 – 03/03/03.
  - TV (hepatitis B) statewide 05/021/01 – 07/31/01.
  - New educational materials (English and Spanish).
- **Statewide Hepatitis C Hotline** to provide education and home testing for hepatitis C and HIV testing for adults at high risk (since October 2000).
- **Professional education and awareness**

- Hepatitis A, B, and C CD-ROMs.
- "Train-the-Trainer" - Hepatitis 101 for Counselors and Outreach Workers; nursing and laboratory continuing education credits.
- Two statewide mailings to all Florida licensed physicians (1/2001, 5/2002).
- Educational seminar on HCV/HIV co-infection (December 12, 2001).
- Hepatitis added to the HIV/AIDS 501 manual (since January 2002).
- Web-based viral hepatitis clearinghouse, which includes information and referral resources for hepatitis A, B and C (since September 2000).
- Viral Hepatitis Educational and Awareness Day at the Florida Capitol (February 17, 2004).

- **Technical assistance and guidance papers**
  - Position paper on hepatitis A vaccination (March 2001).
  - Quality improvement process for County Health Department Hepatitis Programs (since July 2001).
  - Position paper on adult viral hepatitis vaccine availability for the Council of State and Territorial Epidemiologists (May 2002).
  - Needs assessment for adult viral hepatitis vaccine to the National Immunization Program, CDC (May 2002).
  - Technical assistance for the Florida Community Planning Group (HIV/AIDS Program) comprehensive plan (since July 2001).
  - Hepatitis staff continues to work with the Florida Community Planning Group to provide Hepatitis Program technical assistance for the Comprehensive Plan.
  - Since providing a needs assessment for adult viral hepatitis vaccine to the National Immunization Program, CDC, in May 2002, the viral hepatitis program continues to refine its assessment methods for more accurate estimates of need.
- **Prevention and control projects with other partners**
  - Project with Department of Corrections related to viral hepatitis in inmates including seroprevalence, vaccination, education, and testing (since September 2000).
  - Technical assistance for outreach, counseling, and testing in community-based organizations and methadone treatment centers in five counties (Duval, Escambia, Hillsborough, Orange, and Palm Beach) (since July 2001).
  - CDC-funded Viral Hepatitis Integration Project (VHIP): a partnership with the Florida Department of Corrections related to prevention and control of viral hepatitis in two central Florida prisons.
  - Outreach, individual-level intervention, group level intervention, counseling, and testing are provided in community-based organizations, and methadone treatment centers in Duval, Escambia, Hillsborough, Orange, and Palm Beach Counties by a contracted provider.
  - Seven county jails, along with their county health departments (Broward, Indian River, Lee, Pasco, Pinellas, St. Lucie, and St. Johns), provide counseling, testing, education, and vaccination for viral hepatitis, as part of integrated HIV, viral hepatitis, tuberculosis, and STD projects.
- **Medical Management and Treatment**
  - Currently, there is no funding to provide medical evaluation and referral for Floridians infected with chronic viral hepatitis, specifically hepatitis B and hepatitis C. A goal of the Hepatitis Program is to prevent morbidity and mortality through early detection of hepatitis C infection. Although therapeutic medications may be available at no cost to some patients, there are prerequisite medical evaluations are needed to determine if treatment would be beneficial, and also to guide other interventions (e.g., social support, decreasing alcohol intake, and dietary changes). The evaluation may include biopsy, PCR testing, genotyping, viral load testing, physician office visits, and

other associated costs. The evaluation process costs about $2,000 per client. There is currently no mechanism to provide these evaluations for the uninsured.
    - There are very few resources available for chronic viral hepatitis treatment. The current resources include pharmaceutical "compassionate care" programs, clinical trials, and other uncompensated or sliding scale fee arrangements. The waiting lists for these programs are extremely long and the specific qualifications for eligibility are often prohibitive. Some counties may be able to provide limited referrals for evaluation and treatment.
- **Laboratory projects**
    - Assessment of the use of enzyme-linked immunoassay (EIA) hepatitis C signal-to-cut-off ratio for hepatitis C screen reporting (Jan 2001 - Dec 2003).
    - Project with the State DOH Bureau of Laboratory Services to use hepatitis C antibody testing with signal-to-cut off ratio (S/CO) (since February 9, 2004).
- **Enhanced surveillance**
    - Statewide memo encouraging chronic hepatitis B and hepatitis C reporting through MERLIN web-based surveillance system (July 16, 2002).
    - Reports representing over 34,000 people infected with hepatitis C included in public health surveillance data.
    - Electronic reporting provided by State Public Health Laboratory for the public health surveillance system.
    - Statewide and area-specific viral hepatitis epidemiologic profiles for Florida, including hepatitis A, hepatitis B, and hepatitis C.
    - Hepatitis – HIV/AIDS surveillance integration pilot project in three counties (Broward, Orange and Polk) with the purpose of enhancing hepatitis and HIV/AIDS surveillance in Florida (September – November 2001).
    - Survey items for inclusion in the HIV/AIDS HITTS study.
- **Program operations**
    - County health department work groups, including universal risk assessment form development, laboratory testing issues, and educational materials.
    - Modifications to the Health Clinic Management System (HCMS) coding (October 2002) allow use of the immunization module for adult viral hepatitis vaccines (inventory, reminder/recall).
    - HCMS code for combination hepatitis A and hepatitis B vaccine.
    - Viral hepatitis activities (8033 and 8037) can be HCMS-coded to STD and HIV/AIDS program.
    - The "tri-fold" guidance for doing viral hepatitis testing and screening in STD and HIV/AIDS sites.
    - The development of the Hepatitis Program 09 Handbook that includes information to assist CHD staff in their viral hepatitis projects and activities.
    - Monthly vaccine accountability feedback and follow-up.
- **Community and partner meetings**
    - Statewide hepatitis A meeting in Tampa with private and public partners to list and prioritize hepatitis A issues for the state of Florida (February 2001).
    - The first Florida Hepatitis Liver Failure Prevention and Control Program Statewide Action Planning Meeting, April 17-18, 2003 in Orlando, Florida; list and prioritize viral hepatitis issues in Florida.
    - The first Florida Viral Hepatitis Council meeting March 31 - April 1, 2004, in Tampa, Florida.

- **Programmatic Evaluation**
  - CDC/National Immunization Program: Florida Adult Hepatitis Immunization Program Evaluation.
  - CDC-Research Triangle Institute: Evaluation on integration of viral hepatitis into HIV/AIDS and other programs.
  - CDC Electronic Lab Capacity (ELC)-funded program with five sections: educational materials, vaccine, testing, client focus groups/staff interviews, with programmatic logic model.

ACTIVITY BACKGROUND

Community-Based Direct Intervention Programs

Since July 1, 1999, the Florida Hepatitis and Liver Failure Prevention and Control Program have continued to provide funding for six counties (Broward, Collier, Miami-Dade, Monroe, Pinellas, and Polk) for the provision of comprehensive viral hepatitis services. These county programs provide outreach services in the County Health Departments, educational institutions, jails and prisons, as well as substance abuse rehabilitation centers. The outreach includes counseling, testing, education, vaccination, social referral, and medical follow-up. In October 2002, three additional counties (Escambia, Lee, and Seminole) were funded (at a somewhat lower level), to provide a viral hepatitis nurse and clerk.

In addition to the outreach in the nine funded counties, the remaining (unfunded) counties also provide community-based direct interventions for viral hepatitis prevention and control. Each of the counties is eligible to receive viral hepatitis A and hepatitis B vaccines for adults at increased risk for infection or the serious consequences of infection. In addition, many of the unfunded counties also provide counseling and testing services for chronic hepatitis B and hepatitis C. Education and community outreach are often the source of many of the clients presenting for testing and/or vaccination.

The Florida Hepatitis Program also maintains a contract to provide for a statewide hepatitis C hotline, which has, since 2000, provided information and counseling related to viral hepatitis. The hotline provides FDA approved at-home hepatitis C test kits and HIV test kits to adults at increased risk for hepatitis C. More recently, the contract was modified to provide for integrated, ethnically and culturally sensitive hepatitis C and HIV/AIDS outreach, individual- and group-level interventions, and testing through community-based organizations in five Florida counties (Duval, Hillsborough, Orange, Escambia, and Palm Beach). In FY 2002-2003, the contract was again modified to include methadone clinic outreach.

Corrections Programs (Jails and Prisons)

The Centers for Disease Control and Prevention (CDC) (1,2) recommend hepatitis B vaccination for inmates of long-term correctional facilities, as well as for others at risk for infection or the serious consequences of infection.

Infections with hepatitis viruses, including hepatitis B, are found at a significantly higher frequency among the incarcerated population than among the general population. The CDC estimates the prevalence of chronic hepatitis B among prison inmates to be 2 percent, which is five times the national prevalence estimate of 0.4 percent (2). Each year, approximately 12-16 percent of all persons in the U.S. with chronic hepatitis B have been released from correctional facilities with their time spent in prison a missed opportunity for disease prevention. In addition, 20-40 percent of inmates are infected with hepatitis C, compared to the 1.8 percent infection rate in the general population. CDC and others (2,3) recommend hepatitis B vaccination for those infected with HCV.

Improved access to medical care and prevention services for incarcerated populations can benefit all communities by reducing rates of disease transmission and thus lowering medical costs. Cost analyses of the economic consequences of acute and chronic HBV suggest that more widespread use of the hepatitis B vaccine would prevent high health-related costs (4). Other studies have been conducted which suggest that vaccination of high-risk adults, including incarcerated adults, is an important part of a program to eliminate HBV infections (5-6). In

addition, inmates who participate in health-related programs while incarcerated have lower recidivism rates and are more likely to maintain health-seeking behaviors (2).

The cost-effectiveness of hepatitis B vaccination of inmates entering prison has been investigated (7). Costs were analyzed from two perspectives, prison and societal. The results showed that while prisons might not have an economic incentive to vaccinate, society would receive economic benefits. For example, assuming a $100 per inmate vaccine cost, vaccinating entering inmates cost prisons $198 per infection averted, but society had net savings.

Viral Hepatitis Prevention Programs

The most effective means to prevent viral hepatitis infection and its consequences is to integrate viral hepatitis prevention activities into existing clinical services and public health programs, such as those for the prevention and treatment of Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS), sexually transmitted diseases (STDs), and drug abuse. Similar risk factors place persons at risk for transmission of the major blood-borne viral infections – HIV, HCV, and hepatitis B virus. In addition, certain risk factors, such as anal-oral sex, place people at risk for hepatitis A, HIV/AIDS, and other diseases.

The similar modes of transmission of HIV, HBV, and HCV present a unique opportunity to provide prevention services at a single client visit. Integration of services to prevent blood-borne viral infections is a relatively new concept. There is limited experience with combining counseling, testing, prevention, immunization, and treatment services for these diseases in HIV/AIDS prevention sites, STD clinics, drug treatment sites, and correctional health programs. However, data from several demonstration projects indicate that integration of viral hepatitis counseling and testing into existing public health programs is feasible and may enhance identification of persons with risk behaviors for viral hepatitis.

Hepatitis A

Hepatitis A virus (HAV) is found in the stool of persons with hepatitis A. HAV is usually spread from person to person by putting something in the mouth that had been contaminated with the stool of a person with hepatitis A. For this reason, the virus is more easily spread in areas where there are poor sanitary conditions or where personal hygiene is not observed. The virus is killed by boiling at 85 degrees C (185 degrees F) for one minute. However, the disease can still be spread by cooked foods if they are contaminated after cooking. Adequate chlorination of water, as recommended in the United States, kills HAV.

Persons with hepatitis A can spread the virus to others who live in the same household, or with whom they have sexual contact. Casual contact, such as in the usual office, factory, or school setting, does not spread the virus. Immune globulin, a preparation of antibodies, is recommended for short-term protection against HAV and for persons who have already been exposed to HAV. Immune globulin must be given within two weeks of exposure to HAV for maximum protection.

Hepatitis A prevention messages should include:

- Always wash your hands with soap and water after using the bathroom, changing a diaper, or before preparing and eating food. Avoid other practices that involve fecal-oral contact.
- Vaccine is recommended for the following persons 2 years of age and older:
  - Travelers to areas with increased rates of hepatitis A.
  - Men who have sex with men.
  - Injecting and non-injecting drug users.
  - Persons with clotting-factor disorders (e.g. hemophilia).

- Persons with chronic liver disease.
- Children in regions of the U.S. with consistently increased rates of hepatitis A.

Hepatitis B

Hepatitis B (HBV) infection occurs when blood or body fluids from an infected person enters the body of a person who is not immune. HBV is spread through having sex with an infected person without using a condom (the efficacy of latex condoms in preventing infection with HBV is unknown, but their proper use may reduce transmission), sharing needles or "works" when "shooting" drugs, through needle sticks or sharps exposures on the job, or from an infected mother to her baby during birth. Hepatitis B vaccine has been available since 1982. Recommendations are for routine vaccination of 0-18 year olds, with vaccination of risk groups of all ages.

Hepatitis B prevention messages should include:

- Hepatitis B vaccine is the best protection.
- If you are having sex, but not with one steady partner, use latex condoms correctly and every time you have sex. The efficacy of latex condoms in preventing infection with HBV is unknown, but their proper use may reduce transmission.
- If you are pregnant, you should get a blood test for hepatitis B; infants born to HBV-infected mothers should be given HBIG (hepatitis B immune globulin) and vaccine within 12 hours after birth.
- Do not shoot drugs; if you shoot drugs, stop and get into a treatment program; if you cannot stop, never share needles, syringes, water, or "works," and get vaccinated against hepatitis A and B.
- Do not share personal care items that might have blood on them (e.g., razors, toothbrushes).
- Consider the risks if you are thinking about getting a tattoo or body piercing. You might become infected if the tools have someone else's blood on them or if the artist or piercer does not follow good hygiene practices.
- If you have or had hepatitis B, do not donate blood, organs, or tissue.
- If you are a healthcare or public safety worker, get vaccinated against hepatitis B; and always follow routine barrier precautions and safely handle needles and other sharps.

Hepatitis C

In January 1998, the Secretary of the Department of Health and Human Services requested the Centers for Disease Control and Prevention (CDC) to develop a comprehensive plan to address the prevention and control of hepatitis C (HCV) infection and its consequences. The National Hepatitis C Prevention Strategy is the CDC's response to this request, produced in partnership with many federal, state, and private agencies. The goals of the National Hepatitis C Prevention Strategy are to lower the incidence of acute hepatitis C in the United States and reduce the disease burden from chronic HCV infection. Achievement of these goals requires: 1) harm reduction programs directed at persons at increased risk for infection to reduce the incidence of new HCV infections; 2) counseling, testing, and medical evaluation and management of infected persons to control HCV-related chronic liver disease; 3) surveillance to evaluate the effectiveness of prevention activities; and, 4) research to provide answers to questions pertinent to the prevention and control of hepatitis C.

Hepatitis C prevention activities must be accessible to persons receiving healthcare services in both the public and private sectors. Effective implementation of the National Hepatitis C Prevention Strategy should reduce the number of new HCV infections, further reduce other

blood-borne virus infections, and prevent the projected increase in chronic liver disease due to hepatitis C.

The principle components of the National Hepatitis C Prevention Strategy are:

- Education of healthcare and public health professionals to improve the identification of persons at risk for HCV infection and ensure appropriate counseling, diagnosis, medical management, and treatment.
- Education of the public and persons at risk for infection about risk factors for HCV transmission, and the need for testing and medical evaluation.
- Clinical and public health activities to identify, counsel, and test persons at risk for HCV infection, and medical evaluation or referral for those found to be infected.
- Outreach and community-based programs to prevent practices that put people at risk for HCV infection, and to identify persons who need to get tested.
- Surveillance to monitor acute and chronic disease trends and evaluate the effectiveness of prevention and medical care activities.
- Research to better guide prevention efforts.

Hepatitis C prevention messages should include:

- Do not shoot drugs; if you shoot drugs, stop and get into a treatment program; if you cannot stop, never share needles, syringes, water, or "works," and get vaccinated against hepatitis A and B.
- Do not share personal care items that might have blood on them (razors, toothbrushes).
- If you are a healthcare or public safety worker, always follow routine barrier precautions and safely handle needles and other sharps; be vaccinated against hepatitis B.
- Consider the risks if you are thinking about getting a tattoo or body piercing. You might become infected if the tools have someone else's blood on them or if the artist or piercer does not follow good health practices.
- HCV can be spread by sex, but this is rare.
- If you are HCV positive, do not donate blood, organs, or tissue.
- There is no vaccine to prevent hepatitis C.

Professional and Public Education and Training

Achieving high levels of awareness concerning viral hepatitis vaccines and prevention, and maximizing the number of at-risk or infected persons identified, require education and communication directed at healthcare and public health professionals, persons in groups at risk for infection, and the general public.

Education of healthcare professionals

Education of healthcare professionals requires:

- Continuing medical education programs, such as found at www.cdc.gov/hepatitis, and development of clinical and public health practice guidelines to facilitate the incorporation of recommendations for the prevention of viral hepatitis infection and its consequences into clinical and public health practice.
- Development and dissemination of materials to aid healthcare professionals in identifying persons at risk for viral hepatitis infection during primary and specialty healthcare visits, at clinics that provide public health services, in drug outreach and substance abuse treatment programs, and in correctional health programs.
- Periodic updates of guidelines for the diagnosis, treatment, and prevention of viral hepatitis and continuing medical education programs to disseminate this information at the local and national level.

- Dissemination of information regarding the availability of hepatitis A and B vaccine, and hepatitis B and C testing through county health departments.

At-Risk Populations

Different populations are at risk for each type of viral hepatitis. Development and distribution of educational messages should include household contacts of infected persons, sex contacts of infected persons, persons (especially children) living in regions of the U.S. with consistently increased rates of hepatitis A, persons traveling to countries where hepatitis A is common, men who have sex with men, and injecting and non-injecting drug users.

Those considered to be at risk for hepatitis B include persons with multiple sex partners or diagnosis of a sexually transmitted disease, men who have sex with men, sex contacts of infected persons, injection drug users, household contacts of chronically infected persons, infants born to infected mothers, infants/children of immigrants from areas with high rates of HBV infection, healthcare and public safety workers, and long-term hemodialysis patients.

Persons transfused prior to July 1992; incarcerated populations; substance abusers including those in treatment and outreach programs, persons at risk for HIV/AIDS and STDs, and persons attending other community health programs are at increased risk for hepatitis C.

Recent data indicate that prevalence of HCV infection among incarcerated populations is 3-5 times greater than prevalence in the general population. Further, the prevalence of hepatitis B is also increased in the incarcerated population. In addition, messages need to be developed for individuals who may have experimented with injecting drug use only in the distant past, since these persons may not regard themselves as being at risk for infection because they did not become long-term or habitual users.

General Public

Culturally-sensitive, multimedia advertising and education in English, Spanish, and other languages are needed to increase public awareness about viral hepatitis infection; risk factors for infection; the need for counseling and medical management to prevent chronic liver disease; and how to differentiate one type of viral hepatitis from the others. Dissemination of information regarding the availability of hepatitis A and B vaccine and hepatitis B and C testing through county health departments is an important component of hepatitis prevention and control.

Research and Evaluation

The CDC has provided grant funding (#U50/CCU412413-07/3, “Enhanced Laboratory Capacity Cooperative Agreement”) for Hepatitis Program evaluation. The primary purpose of this evaluation funding is for the Department of Health to obtain a rigorous and comprehensive evaluation of the Florida Hepatitis Program and the work to reduce the burden of viral hepatitis. The contract provider will evaluate the performance of viral hepatitis prevention and control projects in addressing risk factors that lead to increased risk of infection or the serious consequences of infection. In addition, the evaluation will address the statewide impact of the viral hepatitis prevention and control projects in addressing viral hepatitis and risk factors. The evaluation will include process, impact, and outcome evaluation, with six deliverables: (1) theoretical framework; (2) evaluation of educational methods/services; (3) evaluation of vaccination for adults at high risk; (4) evaluation of laboratory testing for adults at high risk; (5) key informant interviews, surveys, and focus groups; and (6) written report including deliverables 1-5 above.

In addition to the funded evaluation, CDC has included the Statewide Florida Program and three Florida county programs in an evaluation conducted by the Research Triangle Institute. That evaluation investigated the effects of adding viral hepatitis to HIV/AIDS and STD programmatic functions.

The Florida Hepatitis Program uses quality improvement, epidemiologic analysis, programmatic coding reports, and other methods to provide ongoing evaluation of the Program.

Medical Management and Rehabilitation

Currently, there is no funding to provide medical evaluation and referral for Floridians infected with chronic viral hepatitis, specifically hepatitis B and hepatitis C. Approximately 270,000 Floridians are infected with hepatitis C, and a goal of the Hepatitis Program is to prevent morbidity and mortality through early detection of hepatitis C infection. Although treatment may be available at no cost to some patients, there are prerequisite medical evaluations upon which treatment decisions are based. There is currently no mechanism to provide these evaluations for the uninsured. Medical evaluation is needed to determine if treatment would be beneficial, and also to guide other interventions (e.g., social support, decreasing alcohol intake, dietary changes).

In addition, there are very few resources available for chronic viral hepatitis treatment. The current resources include pharmaceutical “compassionate care” programs; clinical trials; and other uncompensated or sliding fee scale arrangements. The waiting lists for these programs are extremely long and the specific qualifications for eligibility are often prohibitive.

Funding is needed to support counties’ use of hepatitis C medical evaluation services provided through contractual arrangements with gastroenterologists, laboratories, and other providers. The evaluation may include biopsy, PCR testing, genotyping, viral-load testing, physician office visits, and other associated costs. The evaluation process costs about $2,000 per client.

Appendix 2

VIRAL HEPATITIS IN THE U.S. AND IN FLORIDA

Surveillance for viral hepatitis is needed to direct and evaluate prevention and control activities. A surveillance system that monitors new cases (incidence) provides the best means to evaluate the effectiveness of prevention efforts and to identify missed opportunities for prevention. Surveillance for chronic disease provides an indicator of prevalence. Overall, surveillance assists in prevention and control efforts by providing specific information to:

- Monitor trends in incidence of and risk factors for disease.
- Assess burden of disease.
- Identify infected persons requiring counseling and medical follow-up.
- Identify contacts of infected persons requiring counseling and/or post exposure.
- Identify and control outbreaks.
- Identify missed opportunities for prevention.

In Florida, viral hepatitis surveillance data is collected passively from physicians, other healthcare providers, and laboratories. Cases are reported to the local county health departments and from there, the case and epidemiologic data are reported to the state health office. Data is collected and transmitted through MERLIN, a web-based surveillance software system. Although the system was available statewide in 2001, it was only in July 2002 that case definitions were made available and counties encouraged to enter chronic hepatitis cases. Also, MERLIN has acquired electronic laboratory reports from the State Public Health Laboratory since 2003. Although MERLIN is now able to accept both acute and chronic hepatitis case data, the extraordinary number of case reports and lab reports makes it impossible for most counties to investigate the cases/lab reports and enter the data into MERLIN without supplemental funding. Currently, only nine counties (Broward, Collier, Escambia, Lee, Miami-Dade, Monroe, Pinellas, Polk, and Seminole) receive viral hepatitis funding. However, even these counties do not have the staff that would be needed to follow up on all reported chronic cases. For these reasons, the number of chronic cases in the database is a gross underestimate of disease burden. In addition, the epidemiologic data provided for both acute and chronic hepatitis cases (e.g., risk factor) is largely incomplete.

Hepatitis A

Hepatitis A (HAV) is the most common form of acute viral hepatitis in the U.S., and one of the 10 most commonly reported infectious diseases. HAV is an acute viral infection of the liver that is transmitted predominantly by the fecal-oral route, is the most common form of acute viral hepatitis in the U.S. The disease is asymptomatic in 70 percent of children less than six years old and symptomatic in 70 percent of older children and adults. Symptoms, which include fever, anorexia, nausea, abdominal discomfort, dark urine, and jaundice, begin an average of 28-30 days after exposure (range, 15-50 days) and usually resolve within two to four weeks. The rare fatalities (<1/1,000 cases) usually are due to acute liver failure. The infection does not produce chronic liver disease or chronic infection, and infection confers lifelong immunity. Hepatitis A cannot be distinguished from other types of viral hepatitis by symptoms; diagnosis of acute disease is by detection of Immunoglobulin M (IgM) antibody in serum.

Since no chronic disease develops after infection, reported cases of acute disease provide a valid measure of the overall burden of disease due to HAV. Investigation of reported cases to determine their source of infection and particular characteristics provides information for monitoring trends in transmission and risk patterns. Among those cases for which risk factor is

reported, the most common risk factors include having had unprotected anal-oral sex, eating contaminated food, drinking contaminated water, working in or attending a daycare, and having exposure to a known case.

Surveillance data, especially demographic and risk factor information, is important for directing ongoing prevention efforts through identifying new target groups or areas in which vaccination programs should be initiated. Assessment of the effectiveness of hepatitis A vaccination programs is only available through monitoring changes in overall and age-specific disease rates. In addition, by investigating cases occurring in persons belonging to a group for which vaccination is recommended, missed opportunities for vaccination can be assessed.

Exposed contacts to persons with acute hepatitis A receive effective prophylaxis to prevent secondary spread of HAV through timely investigation and identification. This has been an important tool in prevention of outbreaks associated with day care centers or infected food handlers and in prevention of person-to-person transmission in households and extended family settings, as well as among sexual contacts. Through investigation of reported cases for risk factors and recent exposures, persons at increased risk for infection are identified and targeted for prevention activities.

Hepatitis A is one of the 10 most commonly reported infectious diseases. An estimated 80,000 clinical cases and 134,000 infections occur annually in the U.S. While mortality is low, morbidity is relatively high: approximately 11 percent of cases are hospitalized, and an ill adult loses an average of 12 to 27 days of work. In Florida, an average of 715 cases has been reported annually from 1999 through 2003, with the highest rates in children five to nine years old and adults aged 25 to 39. Asymptomatic or unrecognized infections occurring in young children are often a source of infection to others, but the importance of hepatitis A as an emerging sexually transmitted infection cannot be overlooked. Men who have sex with men have driven the change in the epidemiology of this disease in Florida. In 2003, for those cases of confirmed or probable hepatitis A in men who reported a sexual preference (N=274), 24 percent were homosexual or bisexual.

Hepatitis B

Hepatitis B (HBV, formerly know as serum hepatitis) causes both acute and chronic infections. The symptoms of hepatitis B, which may appear two to six months after exposure, but usually within three months, include fatigue, poor appetite, fever, vomiting, and occasionally joint pain, hives or rash. Urine may become darker in color and then jaundice (a yellowing of the skin and whites of the eyes) may appear. Some individuals may experience few or no symptoms. There is no specific curative therapy for the acute infection; however, certain drugs have some efficacy in resolving the chronic infection. Management of chronic infection includes screening for development of liver disease and treatment of ensuing symptoms.

Hepatitis B virus can be found in the blood and, to a lesser extent, saliva, semen, and other body fluids of an infected person. It is spread by direct contact with infected body fluids, usually by needle stick injury or sexual contact. Hepatitis B virus is not spread by casual contact. The virus can be found in blood and other body fluids several weeks before symptoms appear and generally persists for several months afterward. Approximately 10 percent of those infected as adults, and 90 percent of those infected as infants, will become long-term carriers of the virus.

Individuals at increased risk for hepatitis B infection include: persons having unprotected sex – especially with multiple sex partners; those who share needles to inject drugs or for other purposes; healthcare workers who have contact with infected blood; homosexual males,

particularly those with multiple partners; people in custodial care (in settings such as developmental centers); patients undergoing hemodialysis; household contacts of an infected person; and infants born to mothers who are hepatitis B carriers. Immunization with the hepatitis B vaccine is the most effective way to prevent infection with the hepatitis B virus.

Hepatitis B (HBV) is a major public health problem in the U.S. and in Florida. Between 140,000 and 320,000 individuals become infected with hepatitis B each year in the U.S. In addition, approximately 1.25 million Americans are chronically infected with hepatitis B. Not only are these persons the major reservoir of ongoing transmission, but they are at increased risk for chronic liver disease, including cirrhosis and hepatocellular carcinoma. Between 15 and 25 percent of the chronically infected will subsequently die from chronic liver disease.

The incidence of HBV infection differs significantly by race and sex, with the highest rates among nonwhites and males. Incidence also varies by age with the highest rates among persons 20-39 years of age. Less than 2 percent of the HBV infections that occur among children are reported as acute hepatitis B because HBV infections that occur in infants and children rarely produce signs or symptoms of disease. Chronic infection among children, prior to routine immunoprophylaxis of infants and children, accounted for a disproportionate amount of the chronic disease burden. In Florida, the incidence of hepatitis B has remained fairly stable since 1997. An average of 540 cases has been reported annually from 1999 through 2003, with the highest rates in adults 20 to 39 years of age, especially in nonwhite males.

Data for Florida shows only three confirmed cases of hepatitis B infections in children less than 19 years of age for 2002, which is a considerable decrease from the 28 cases reported in 1997. Effective with the 1997/98 school year, students entering or attending seventh grade have been required to have the hepatitis B series, and effective with the 1998/99 school year, the same requirement was made effective for entry and attendance in kindergarten. HBV infection will be reduced greatly as the age groups covered by universal infant and adolescent vaccination efforts enter young adulthood, a period when the risk of HBV infection increases.

Hepatitis C

Hepatitis C (HCV) is a major emerging public health issue, both because of its direct impact and because of increasing public perception of its importance. HCV infection is usually asymptomatic, but over many years, can lead to severe liver disease, including cirrhosis and liver cancer. Most of those infected are unaware that they have the disease and may serve as unknowing sources of transmission. HCV is the most common chronic blood-borne infection in the U.S. An estimated 3.9 million Americans (1.8 percent of the population) have been infected with HCV, and most of those have chronic infections. The virus is transmitted primarily through direct injection of contaminated blood, most commonly by sharing needles for injecting drugs, and, before 1992, by blood transfusion. No vaccine is available, but combinations of ribavirin and pegylated interferon have provided successful therapy for some people with hepatitis C infection.

After the acute infection, which produces jaundice or mild, nonspecific symptoms in 20-30 percent of patients, most people (75-85 percent) develop chronic infections, characterized by the persistence of viral RNA in the blood. Of those chronically infected, 60-70 percent have continuous or intermittent elevations of the liver enzyme alanine aminotransferase (ALT), indicating chronic active liver disease. Chronic cases may be identified through screening tests of high-risk individuals, during blood donor screenings, from liver function tests performed for routine physical exams, or after onset of liver disease. The disease progresses very slowly; symptoms may not occur until 20 to 30 years after infection. Ten to 20 percent of those with

chronic disease will develop cirrhosis and one percent to five percent will develop liver cancer. HCV causes an estimated 8,000 to 10,000 deaths a year in the U.S., with more than $600 million in associated medical and work-loss costs.

Since screening procedures for blood donors were instituted in the early 1980s, the predominant mode of HCV transmission in the U.S. has been injecting drug use, which accounts for an estimated 60 percent of new cases. Although the prevalence of HCV infection is higher among persons with multiple sexual partners (9 percent among persons with 50 or more lifetime sexual partners), the risk of transmission between long-term steady partners is low. The risk of transmission from mother to child during birth is 5 percent to 6 percent. Transmission among household contacts has been reported, but is uncommon. While hepatitis B is a well-recognized occupational hazard for healthcare workers, HCV appears to be less of a threat. Rates of HCV infection in healthcare workers are the same as or lower than rates in the general population, although unintentional needle stick injury still poses a risk. Previous studies of transmission have found no increased risk associated with medical, surgical, or dental procedures, tattooing; acupuncture, ear piercing, or foreign travel, an indication either that these are not risk factors or that the excess risk is too low to detect.

Hepatitis C presents complex epidemiologic, social, and medical challenges. Very few of those who are infected know their status. In addition, many people have a poor understanding of the routes of transmission of the virus, the consequences of infection, and the relationship of hepatitis C to other forms of hepatitis, liver disease, and other conditions. Healthcare provider knowledge is variable; information on hepatitis C is being constantly revised and updated. Compounding these challenges, hepatitis C surveillance is very incomplete. Currently, very few of the chronically infected cases are entered into the surveillance data system. In addition, many of the chronic cases do not have epidemiologic data, such as risk factor, reported. Where surveillance for hepatitis A and hepatitis B is assisted by a laboratory test available to differentiate newly acquired infections from past infections, the absence of such a test for hepatitis C complicates surveillance efforts. However, reporting of HCV positive laboratory tests, most of which represent persons with resolved or chronic infection, is a requirement in Florida. Due to insufficient resources, acute HCV disease (i.e., clinical illness) has limited tracking to determine if a laboratory report represents true infection, chronic infection, repeated testing of a person previously tested, or a false-positive result. However, periodic analyses of the cumulative number of persons enrolled in HCV infection databases can be used to provide local and state estimates of the proportion of persons with HCV infection who have been identified.

Treatment with ribavirin and pegylated interferon has shown some effectiveness in reducing ALT to normal levels and eradicating detectable viral RNA in serum. Treatment effectiveness depends greatly on the genotype of the virus. The most common genotype in the U.S. is one that has the lowest response rate to therapy. Management of HCV infection also includes avoidance of alcohol and other liver-toxic drugs, as well as vaccination against hepatitis A and B. The effectiveness of treatment for infected persons in preventing transmission is unknown.

Based on national estimates, approximately 270,000 Floridians are chronically infected with the hepatitis C virus, and approximately 2,000 new cases occur each year. However, because the initial stages of hepatitis C infection are either asymptomatic or associated only with mild symptoms, most new infections are not diagnosed. Hepatitis C was made a notifiable disease in Florida in July 1999, and case definitions were finalized in June 2002. Prior to that time, all hepatitis C cases were classified as hepatitis non-A/non-B, of which about 100 were reported each year. By the end of January 2000, only 49 confirmed new cases of acute hepatitis C had

been reported to the Florida Department of Health for the last six months of 1999. In 2003, 63 acute hepatitis C cases and 20,121 chronic cases were reported. Demographically, Florida cases are similar to the rest of the U.S.; incidence begins to rise in the teen years and peaks in 30-39 year olds, with similar rates among males and females. The majority of hepatitis C morbidity is due to the chronic manifestations of hepatitis C. Florida's chronic hepatitis surveillance is incomplete at this time.

Viral Co-infection

While the likelihood of disease (pathogen) infection is related to many variables, mode of transmission is one of the most influential factors. When modes of transmission for specific pathogens are the same or significantly overlap, infection with more than one of those pathogens is likely. Infection with more than one pathogen is called co-infection. Caregivers and healthcare providers should consider the possibility of additional morbidity or mortality in a co-infected individual. For example, studies have shown that while HIV/AIDS treatment in a person co-infected with hepatitis C may be successful, he or she may then survive the HIV infection only to experience liver cancer or liver failure due to hepatitis C. In addition to HCV-HIV co-infection, consideration should be given to co-infection with multiple hepatitis viruses (e.g., hepatitis A and hepatitis B in men who have sex with men, especially with multiple partners). Other sexually transmitted diseases (e.g., syphilis) and blood-borne diseases should also be considered as possible (or even likely) co-infective pathogens.

Co-infection with viral hepatitis, especially with hepatitis B and hepatitis C viruses, is common in the HIV-infected population. Up to 95 percent of HIV-infected patients have serological markers of past HBV infection, and 10 percent to 15 percent of HIV-infected patients are chronic carriers.[1] These high rates of co-infection are not surprising given that HIV and HBV share the same risk factors – sexual contact (both homosexual and heterosexual), intravenous drug use, and in the past, use of blood products. Furthermore, approximately 30 percent of persons in the U.S. infected with human immunodeficiency virus HIV are also infected with HCV. The high prevalence of co-infections with HIV and HCV is attributable largely to intravenous drug use: 60 percent to 90 percent of HIV-infected injection drug users in urban areas of the U.S. and Europe are also HCV infected.[2] The overall prevalence of HCV co-infection in HIV-infected individuals is probably closer to 25 percent.

Although both HIV and HCV can be transmitted by percutaneous exposure to blood, through intercourse, and from a mother to her infant, the relative efficiency of transmission by these routes varies for each virus. For example, sexual transmission is common for HIV but is less effective for HCV. In approximately 10 percent of patients with HIV-HCV co-infection, the risk factors associated with HCV transmission are unknown. Studies have shown that co-infection with HIV and the hepatitis B virus is more common than that with HIV and hepatitis C virus, although more attention has been given to HCV co-infection as a result of its higher frequency of chronic disease[3]. The prevalence of hepatitis A virus infection does not seem to be increased in HIV-infected patients, nor does the morbidity and mortality associated with HAV infection. Vaccination of HIV-infected patients, especially men who have sex with men at high risk for transmission through sexual contact, is however recommended as the incidence of fulminant liver disease due to hepatitis A is significantly increased and is most often fatal in patients with chronic HCV.

Surveillance for hepatitis C, especially chronic infection, is very incomplete; therefore, few published reports are available on the rate of HIV co-infection among those who are hepatitis C positive. Generally, however, it is believed that approximately 10 percent of those who are hepatitis C positive are also co-infected with HIV. Currently, co-infection data is rarely entered

into the viral hepatitis surveillance data system. Within HIV/AIDS surveillance, however, co-infections with hepatitis A, B, and/or C are sometimes noted in the data.

A 2002 review of data from the Florida HIV/AIDS database, which includes cases tracked since 1981, found 4.2 percent of the HIV/AIDS cases with documented viral hepatitis co-infection information. [This is undoubtedly an underestimation of HIV/AIDS cases with viral hepatitis co-infections, as the database was not designed to be the surveillance tool for viral hepatitis case collection.] Of those with viral hepatitis co-infection, HBV occurred most often (33 percent), followed by HCV (30 percent). Males accounted for the majority (78 percent) of co-infection cases, and persons 30-49 years of age accounted for approximately 40 percent of the cases. Of HIV cases reporting HBV as the sole co-infection, 64 percent were associated with men who have sex with men (MSM), 9 percent with intravenous drug use (IDU) and MSM, and 7 percent with IDU. Those cases reporting HCV as the only co-infection were associated with IDU (43 percent), MSM (24 percent), and IDU/MSM (12 percent). Minority populations in Florida are disproportionately impacted by both HIV/AIDS and viral hepatitis.

Liver disease has emerged as an important cause of morbidity and mortality in HIV-infected persons, increasing the importance of managing viral hepatitis. HIV infection tends to make hepatitis C infection progress more rapidly. Because HIV diminishes the ability of the immune system to fight off infection, it speeds the rate of liver damage caused by HCV. This places the co-infected patient at a greater risk for cirrhosis, liver cancer, and liver failure than persons infected with HCV alone. Similarly, while relatively few people tend to die due to hepatitis A infection, the risk of mortality in those with acute hepatitis A is increased for a person who is already infected with hepatitis C.

All HIV-infected patients should be screened for HCV infection using enzyme immunoassays for HCV infection. False negative HCV serology, however, may be associated with low CD4 cell counts. Since HIV patients are often unable to develop an adequate antibody response, it may be necessary to perform a qualitative HCV-RNA polymerase chain reaction (PCR) for HIV-positive patients bearing evidence of unexplained chronic liver disease, but with undetectable HCV antibodies.[4] In patients with stable HIV infection and the absence of contraindications for anti-HCV therapy, testing for viral load and genotyping is recommended before treatment.[5]

The management of HIV-infected persons with chronic HCV infection includes counseling about preventing liver damage and HCV transmission, vaccinating against hepatitis A and hepatitis B (if susceptible), evaluating for chronic liver disease, and consideration of antiretroviral treatment. A liver biopsy, to evaluate the stage of chronic hepatitis C, is considered the gold standard for critical assessment of persons with chronic HCV, the histological exam can provide direct assessment of liver injury (fibrosis and inflammation). Whereas spontaneous recovery from HCV infection occurs in approximately 15 percent to 30 percent of HIV-uninfected persons, HCV clearance occurs in only 5 percent to 10 percent of HIV-infected persons, and among the HIV-infected, less in those with lower CD4 cell counts.[6]

Persons infected with HIV and chronic HCV infection should also be tested for prior or concurrent hepatitis B virus infection. The risk for chronic HBV infection is approximately 5 percent to 10 percent in immunocompetent patients infected as adults. This risk increases to approximately 20 percent in HIV-positive patients if HIV infection precedes HBV infection. In addition, this risk seems to be correlated with a depressed CD4 cell count.

Vaccines are not available to prevent either HIV or HCV infection. While the effects of HCV infection on the outcome of HIV disease remain to be established, several studies suggest that

HIV disease modifies the natural history of HCV infection, leading to a faster course of progression from active viral hepatitis to cirrhosis, end-stage liver disease, and death.[7] In HIV-HBV co-infected persons treatment is important for the same reason. The response rate of HIV-positive patients to HBV vaccination (9 months after an initial dose) is poor. HIV-positive patients have a response rate to recombinant hepatitis B vaccine of less than 60 percent and a response rate to plasma-derived vaccines of about 50 percent.[8] Despite the poor response, vaccination to HBV, it is still recommended in HIV-positive patients without markers indicating past HBV infection.

The interactive effects occurring in HIV-hepatitis co-infected individuals, their clinical courses, and the treatment of these patients are complex. Research in the past 5 years has yielded new therapeutic agents that offer greater efficacy, greater ease of use, and a lower incidence of adverse events for patients with hepatitis B or C. The next few years are likely to see the development of many more therapies, impacting the treatment goals of improving the immune status and reducing the progression of liver disease, thus improving the quality and length of life.

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Appendix 3

GLOSSARY OF TERMS

AHCA	Agency for Health Care Administration
ACIP	Advisory Committee on Immunization Practices
AETC	AIDS Education and Training Center
ALT	Alanine transaminase; a liver enzyme that plays a role in protein metabolism. Elevated serum levels of ALT are a sign of liver damage from disease or drugs.
Anti-HBc	Antibody to hepatitis B core antigen
Anti-HBe	Antibody to hepatitis B e antigen
Anti-HBs	Antibody to hepatitis B surface antigen
AST	Aspartate aminotransferase; a liver enzyme that plays a role in protein metabolism. Elevated serum levels of AST are a sign of liver damage from disease or drugs.
BRFSS	Behavioral Risk Factor Surveillance System. Developed by the CDC, the BRFSS, the world's largest telephone survey, tracks health risks in the U.S. Information from the survey is used to improve the health of the American people.
CASA	Clinic Assessment Software Application -a menu-driven relational database developed by the National Immunization Program, Centers for Disease Control and Prevention, as an assessment tool for immunization clinics and providers
CBO	Community-Based Organization
CDC	Centers for Disease Control and Prevention
CHARTS	Community Health Assessment Resource Tool Set
CHD	County Health Department
CSTE	Council of State and Territorial Epidemiologists
CTS	Counseling and Testing Services
DMI	Disease Management Initiative. The Agency for Health Care Administration has contracted with disease management organizations to provide disease management services to Medicaid recipients enrolled in the Primary Care Case Management Program (MediPass) who have been diagnosed with diabetes, HIV/AIDS, asthma, or hemophilia.
DOC	Department of Corrections
DOH	Department of Health (also DOH, Florida DOH)
DOI	Department of Insurance
EIA	Enzyme immunoassay; the general term for an expanding technical arsenal of testing that allows a full range of quantitative analyses for both antigen and antibodies. These tests use color-changed products of enzyme-substrate interaction (or inhibition) to measure the antigen-antibody reaction.
EIC	Early Intervention Consultant
ELISA	Enzyme-linked immunosorbent assay; a general screening, serologic test for the detection of antibodies to the HIV virus.
EPO	Epidemiology Program Office
FAC	Florida Administrative Code

FVHC	Florida Viral Hepatitis Council
GI	Gastrointestinal; pertaining to, or communicating with, the stomach and intestine.
HAV	Hepatitis A virus
HbcAg	Hepatitis B core Antigen
HbeAg	Hepatitis B e Antigen
HBIG	Hepatitis B Immune Globulin
HBsAg	Hepatitis B Surface Antigen
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HITS	HIV Testing Survey. The purpose of HITS is to assess knowledge, attitudes, and HIV-testing behavior among the three populations identified by the CDC: high risk heterosexuals, men who have sex with men and injection drug users.
HP 2010	Healthy People 2010 Objectives
IG	Immune Globulin; a specific protein substance that is produced by plasma cells to aid in fighting infection.
IgM	Immunoglobulin M
LBR	Legislative Budget Request
LFT	Liver function test; a test that measures the blood serum level of several enzymes produced by the liver. An elevated liver function test is a sign of possible liver damage.
MERLIN	DOH disease morbidity data base system
MMWR	Morbidity and Mortality Weekly Report, prepared by the CDC.
MSM	Men who have Sex with Men
NASTAD	National Alliance of State and Territorial AIDS Directors
NETSS	National Electronic Telecommunications System for Surveillance
NNDSS	National Notifiable Diseases Surveillance System
NIH	National Institutes of Health
OPS	Other Personnel Services
PCP	Primary Care Provider
PHIDS	Public Health Indicators Data System; developed by the Florida Department of Health to track public health indicators.
Private Sector Sites	These include counseling and testing sites such as methadone treatment centers and other community-based organizations (owned by private entities or individuals, irrespective of funding sources).
Public Sector Sites	These include STD and HIV/AIDS counseling and testing clinics, CHDs, drug treatment programs, correctional health programs, family planning clinics, and community health centers (owned or related to a government entity).
QA	Quality Assurance
QI	Quality Improvement
RIBA	Recombinant Immunoblot Assay; a more specific test than the anti-HCV EIA antibody test, which helps confirm a diagnosis of hepatitis C virus infection.
RT-PCR	Reverse Transcriptase Polymerase Chain Reaction assay; a gene amplification technique that can be used to detect HCV RNA and therefore diagnose HCV infection. Rarely, detection of HCV RNA may be the only evidence of HCV infection.

STD	Sexually Transmitted Disease
USDHHS	U.S. Department of Health and Human Services
VA	Veterans Affairs
VCF	Vaccines for Children Program
VFARH	Vaccines For Adults At Risk for Hepatitis
VHIP	Viral Hepatitis Integration Projects; CDC-sponsored projects. The integration of viral hepatitis services into existing prevention systems (STD clinics, HIV counseling and testing sites, etc.) provides optimal prevention/intervention services to clients with multiple risk factors.